Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 14, 2006

Mr. Scott Deskins
Bulverde/46 Partners, Ltd.
301 Congress Ave. Suite 1550
Austin, TX 78701

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Bulverde Retail Home Depot; Located near the south west corner of the intersection of SH 46 and US Hwy 281; Bulverde, Texas
TYPE OF PLAN: Request for Approval of a Modification to a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 2338.01
Regulated Entity No.: RN104608955
Investigation No.: 487370

Dear Mr. Deskins:

The modification to a Contributing Zone Plan application for the referenced project was submitted to the San Antonio Regional Office by Coy D. Armstrong, P.E. of Bury & Partners - SA, Inc. on behalf of Bulverde/46 Partners, Ltd. on June 28, 2006. Final review of the CZP modification was completed on September 13, 2006. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this modification to a Contributing Zone Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10% of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

This facility was previously approved by letter dated August 16, 2005. As outlined in the original approval, the total commercial site encompasses 53 acres divided into drainage areas A, B, C, D, E, F1, F2, F3, F4, G, and I. Drainage areas A, B, C, D, E, and F1 are treated by the North treatment basin. Drainage area F3 bypasses treatment. Areas contributing to the South treatment basin include F2, G, and I. Drainage area F4 bypasses treatment by the South treatment basin.

PROJECT DESCRIPTION

The proposed modification is to drainage area D, lot 5 (5.707 acres) and area contributing to the North treatment basin. This area represents a portion of the area listed in the initial approval as "unidentified future commercial development."

The modification application proposes that the commercial/retail development for lot 5 will consist of the following:

- A 20,000 square foot (sq. ft.) retail facility,
- A 4,055 sq. ft. bank with drive thru area,
- 99 parking spaces, sidewalks and associated paved drives, and
- A septic tank and a drain field.

The proposed modification will not involve any physical modification to the constructed water quality pond - North treatment basin.

According to a letter dated, April 14, 2005, signed by Thomas H. Hornseth, P.E., with Comal County, a portion of the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site and potentially flowing across and off the site after construction, two partial sedimentation filtration basins were designed and constructed according to the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (June 1999). Table I summarizes the permanent treatment for the site as approved in the initial approval letter dated August 16, 2005.

Table I

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
North	21.89	17.51	80	1.18	116,382	184,951	10,269	26,963	13,977.98	19,798.66
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15
North Untreated	12.92	0.75	5.8	-	-	-	-	-	481.50	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	26.61	50.2	-	-	-	-	-	20,921.84	28,440.81

Table II summarizes the permanent treatment as proposed in the modification application.

Table II

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
North*	21.33	16.90	79.2	1.60	91,182	184,951	5,066	26,963	15,399.98	17,244.07
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15
North * Untreated	13.48	1.00	7.4	-	-	-	-	-	897.6	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	26.25	49.5	-	-	-	-	-	22,699.94	25,886.22

* data calculated utilizing TCEQ technical guidance document RG-348 (2005)

The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the Contributing Zone Plan approval letter dated August 16, 2005.

II. All sedimentation/filtration basins shall be operational prior to occupancy or use of any of the facilities within their respective drainage areas.

III. All sediment and/or media removed from the sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

IV. Intentional discharges of sediment laden stormwater are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetative filter strips, sediment traps, rock berms, silt fence rings, filters, etc.

V. Since the future development is conceptual and lay out and grading plans are not available for development activities in Drainage Areas B, E, and G, modifications to the CZ plan will be required for future construction activities within these drainage areas. Future modifications must utilize the current technical guidance manual and calculations to ensure the proposed measures meet the required 80 percent removal of the increased load in total suspended solids caused by the entire site. Target TSS removal and design TSS removal for each treatment basin shown the tables above must be calculated in accordance with the most current guidance.

VI. A copy of the on site sewage facility permit for each on site sewage facility system that will be installed on the site must be provided within 30 days of the permit being issued.

VII. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to record the approval is enclosed.

VIII. For any future modifications to any of the permanent BMPs on this site, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.

IX. The applicant shall provide all contractors with a copy of pages 1-35 through 1-60 of TCEQ TGM RG-348 (2005) as a guide for soil stabilization practices and assure that any soil stabilization is performed is in accordance with these practices and the approved plan.

X. In addition to the rules of the commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the

executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

14. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Amy Burroughs of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4023.

Sincerely,

Bobby D. Caldwell

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/AEB/eg

Enclosure(s): Change in Responsibility for Maintenance on Permanent BMPs-Form TCEQ-10263
Deed Recordation Affidavit, Form TCEQ-0625

fc/cc: Mr. Coy D. Armstrong, P.E., Bury + Partners-SA, Inc.
Mayor Sarah Stevick, City of Bulverde
Mr. Tom Hornseth, Comal County
Mr. Robert J. Potts, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 14, 2006

Mr. Scott Deskins
Bulverde/46 Partners, Ltd.
301 Congress Ave. Suite 1550
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Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Bulverde Retail Home Depot; Located near the south west corner of the intersection of SH 46 and US Hwy 281; Bulverde, Texas
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Edwards Aquifer Protection Program File No. 2338.01
Regulated Entity No.: RN104608955
Investigation No.: 487370

Dear Mr. Deskins:

The modification to a Contributing Zone Plan application for the referenced project was submitted to the San Antonio Regional Office by Coy D. Armstrong, P.E. of Bury & Partners - SA, Inc. on behalf of Bulverde/46 Partners, Ltd. on June 28, 2006. Final review of the CZP modification was completed on September 13, 2006. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this modification to a Contributing Zone Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10% of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

This facility was previously approved by letter dated August 16, 2005. As outlined in the original approval, the total commercial site encompasses 53 acres divided into drainage areas A, B, C, D, E, F1, F2, F3, F4, G, and I. Drainage areas A, B, C, D, E, and F1 are treated by the North treatment basin. Drainage area F3 bypasses treatment. Areas contributing to the South treatment basin include F2, G, and I. Drainage area F4 bypasses treatment by the South treatment basin.

REPLY TO: REGION 13 • 14250 JUDSON RD. • SAN ANTONIO, TEXAS 78233-4480 • 210/490-3096 • FAX 210/545-4329

P.O. Box 13087 • Austin, Texas 78711-3087 • 512/239-1000 • Internet address: www.tceq.state.tx.us

PROJECT DESCRIPTION

The proposed modification is to drainage area D, lot 5 (5.707 acres) and area contributing to the North treatment basin. This area represents a portion of the area listed in the initial approval as "unidentified future commercial development."

The modification application proposes that the commercial/retail development for lot 5 will consist of the following:

- A 20,000 square foot (sq. ft.) retail facility,
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The proposed modification will not involve any physical modification to the constructed water quality pond - North treatment basin.

According to a letter dated, April 14, 2005, signed by Thomas H. Hornseth, P.E., with Comal County, a portion of the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

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Total	53.00	26.61	50.2	-	-	-	-	-	20,921.84	28,440.81

Table II summarizes the permanent treatment as proposed in the modification application.

Table II

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* data calculated utilizing TCEQ technical guidance document RG-348 (2005)

The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the Contributing Zone Plan approval letter dated August 16, 2005.

II. All sedimentation/filtration basins shall be operational prior to occupancy or use of any of the facilities within their respective drainage areas.

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VII. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to record the approval is enclosed.

VIII. For any future modifications to any of the permanent BMPs on this site, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.

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X. In addition to the rules of the commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

<u>During Construction:</u>

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

<u>After Completion of Construction:</u>

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the

executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

14. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Amy Burroughs of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4023.

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/AEB/eg

Enclosure(s): Change in Responsibility for Maintenance on Permanent BMPs-Form TCEQ-10263
Deed Recordation Affidavit, Form TCEQ-0625

fc/cc: Mr. Coy D. Armstrong, P.E., Bury + Partners-SA, Inc.
Mayor Sarah Stevick, City of Bulverde
Mr. Tom Hornseth, Comal County
Mr. Robert J. Potts, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of ______________ §

BEFORE ME, the undersigned authority, on this day personally appeared ______________ who, being duly sworn by me, deposes and says:

(1) That my name is __________________________and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on ______________.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in ________________ County, Texas, and the legal description of the property is as follows:

____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of ______, ____.

____
NOTARY PUBLIC

THE STATE OF __________ §

County of ______________ §

BEFORE ME, the undersigned authority, on this day personally appeared __________________ known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this __ day of ________, _____.

____
NOTARY PUBLIC

____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: __________

Change in Responsibility for Maintenance on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: ______________________

Regulated Entity Name: ______________________

Site Address: ______________________

City, Texas, Zip: ______________________

County: ______________________

Approval Letter Date: ______________________

BMPs for the project: ______________________

New Responsible Party: ______________________

Name of contact: ______________________

Mailing Address: ______________________

City, State: ______________________ Zip: __________

Telephone: ______________________ FAX: ______________________

______________________ __________
Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Kathleen Hartnett White, *Chairman*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 1, 2007

Mr. Scott Watson
Bulverde Area Rural Library District
20475 Highway 46 West, Suite 340
Spring Branch, Texas, 78070

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Bulverde Library (aka Bulverde Home Depot); Located near the south west corner of the intersection of SH 46 and US Hwy 281; Bulverde, Texas
TYPE OF PLAN: Request for Approval of a Modification to a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 2338.02
Regulated Entity No.: RN105161939
Investigation No.: 536208

Dear Mr. Watson:

The modification to a Contributing Zone Plan application for the referenced project was submitted to the San Antonio Regional Office by Greg Smith, P.E. of Macina, Bose, Copeland and Associates, Inc. on behalf of Bulverde/46 Partners, Ltd. on January 3, 2007. Final review of the CZP modification was completed after additional material was received on February 2, 2007, February 26, 2007 and February 28, 2007. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this modification to a Contributing Zone Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10% of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

This facility was previously approved by letter dated August 16, 2005. As outlined in the original approval, the total commercial site encompasses 53 acres divided into drainage areas A, B, C, D, E, F1, F2, F3, F4, G, and I. Drainage areas A, B, C, D, E, and F1 are treated by the North treatment basin. Drainage area F3 bypasses treatment. Areas contributing to the South treatment basin include F2, G, and I. Drainage area F4 bypasses treatment by the South treatment basin.

REPLY TO: REGION 13 • 14250 JUDSON RD. • SAN ANTONIO, TEXAS 78233-4480 • 210-490-3096 • FAX 210-545-4329

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • Internet address: www.tceq.state.tx.us

A modification to the original plan, approved by letter dated September 14, 2006, included development of drainage area D, lot 5, into a commercial/retail development.

PROJECT DESCRIPTION

The proposed modification is to drainage area E, lot 6. This lot represents a portion of the area listed in the initial approval Home Depot Bulverde master plan as "unidentified future commercial development." Lot 6 has a total site area of 6.98 acres, and will have a developed drainage area of 2.98 acre with 1.54 acres of impervious cover.

The modification application proposes that the commercial development for lot 6 will consist of the following:

1. An 18,344 square foot (sq. ft.) library,
2. 70 parking spaces, sidewalks and associated paved drives, and
3. An aerobic septic system with spray distribution.

Stormwater runoff from the site will be treated by the existing partial sedimentation/filtration basin "North". The proposed modification will not involve any physical modification to the existing North treatment basin.

According to a letter dated, April 14, 2005, signed by Thomas H. Hornseth, P.E., with Comal County, a portion of the site in the development is acceptable for the use of on-site sewage facilities.

On February 9, 2007 the investigator conducted a reconnaissance site investigation to confirm the existing project site conditions stated in the CZP modification application. The investigation revealed that construction was underway and was ongoing during the investigation.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site and potentially flowing across and off the site after construction, two partial sedimentation filtration basins were designed and constructed according to the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (June 1999). Table I summarizes the permanent treatment for the site as approved in the original approval letter dated August 16, 2005.

Table I

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
North	21.89	17.51	80	1.18	116,382	184,951	10,269	26,963	13,977.98	19,798.66
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15

North Untreated	12.92	0.75	5.8	-	-	-	-	-	481.50	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	26.61	50.2	-	-	-	-	-	20,921.84	28,440.81

Table II summarizes the permanent treatment as proposed in the modification application.

Table II

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
North*	**20.04**	**16.57**	**82.70**	**2.2**	**106,024**	**184,951**	**12,723**	**26,963**	**15,717**	**16,894**
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15
North* Untreated	**14.77**	**0.93**	**6.3**	-	-	-	-	-	**844**	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	**25.85**	**48.8**	-	-	-	-	-	**23,023.36**	**25,536.15**

*data calculated utilizing TCEQ technical guidance document RG-348 (2005). Changes are shown in bold print.

The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project. The remaining storage capacity of the North Basin is 78,927 cubic feet.

SPECIAL CONDITIONS

I. The construction activity (as observed by the reconnaissance investigation) in areas previously identified as undeveloped (undisturbed/uncleared) may constitute construction without the prior approval of the water pollution abatement plan as required by Commission rules (30 TAC Chapter 213). Therefore, the applicant is hereby advised that the after-the-fact approval of the development, as provided by this letter, shall not absolve the applicant of any prior violations of Commission rules related to this project, and shall not necessarily preclude the Commission from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §213.10 of Commission rules.

II. This modification is subject to all Special and Standard Conditions listed in the Contributing Zone Plan approval letter dated August 16, 2005.

III. All sedimentation/filtration basins shall be operational and certified in accordance with Standard Condition 10 of the Contributing Zone Plan approval letter sates August 16, 2005 prior to occupancy or use of any of the facilities within their respective drainage areas.

IV. All sediment and/or media removed from the sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

V. Intentional discharges of sediment laden stormwater are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetative filter strips, sediment traps, rock berms, silt fence rings, filters, etc.

VI. Since the future development is conceptual and lay out and grading plans are not available for development activities in Drainage Areas B and G, modifications to the CZ plan will be required for future construction activities within these drainage areas. Future modifications must utilize the technical guidance manual and calculations in accordance with the most current guidance at the time of the modification to ensure the proposed measures meet the required 80 percent removal of the increased load in total suspended solids caused by the entire site. Target TSS removal and design TSS removal for each treatment basin shown the tables above must be calculated in accordance with the most current guidance at the time of the modification.

VII. A copy of the on site sewage facility permit for each on site sewage facility system that will be installed on the site must be provided within 30 days of the permit being issued.

VIII. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to record the approval is enclosed.

IX. For any future modifications to any of the permanent BMPs on this site, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.

X. The applicant shall provide all contractors with a copy of pages 1-35 through 1-60 of TCEQ TGM RG-348 (2005) as a guide for soil stabilization practices and assure that any soil stabilization is performed is in accordance with these practices and the approved plan.

XI. In addition to the rules of the commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

XII. Since the runoff from this project will be treated by an existing offsite water quality basin, Standard Condition 10 of this letter applies only to the certification of the on-site impervious cover and area directed to the water quality basin.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface

streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

14. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Zach Lanfear of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4019.

Sincerely,

Richard Garcia

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/ZCL/eg

Enclosure(s): Change in Responsibility for Maintenance on Permanent BMPs-Form TCEQ-10263
Deed Recordation Affidavit, Form TCEQ-0625

fc/cc: Mr. Greg Smith. P.E, Macina, Bose, Copeland and Associates
Mayor Sarah Stevick, City of Bulverde
Mr. Tom Hornseth, Comal County
Mr. Robert J. Potts, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 14, 2006

Mr. Scott Deskins
Bulverde/46 Partners, Ltd.
301 Congress Ave. Suite 1550
Austin, TX 78701

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Bulverde Retail Home Depot; Located near the south west corner of the intersection of SH 46 and US Hwy 281; Bulverde, Texas
TYPE OF PLAN: Request for Approval of a Modification to a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 2338.01
Regulated Entity No.: RN104608955
Investigation No.: 487370

Dear Mr. Deskins:

The modification to a Contributing Zone Plan application for the referenced project was submitted to the San Antonio Regional Office by Coy D. Armstrong, P.E. of Bury & Partners - SA, Inc. on behalf of Bulverde/46 Partners, Ltd. on June 28, 2006. Final review of the CZP modification was completed on September 13, 2006. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this modification to a Contributing Zone Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10% of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

This facility was previously approved by letter dated August 16, 2005. As outlined in the original approval, the total commercial site encompasses 53 acres divided into drainage areas A, B, C, D, E, F1, F2, F3, F4, G, and I. Drainage areas A, B, C, D, E, and F1 are treated by the North treatment basin. Drainage area F3 bypasses treatment. Areas contributing to the South treatment basin include F2, G, and I. Drainage area F4 bypasses treatment by the South treatment basin.

REPLY TO: REGION 13 • 14250 JUDSON RD. • SAN ANTONIO, TEXAS 78233-4480 • 210/490-3096 • FAX 210/545-4329

P.O. Box 13087 • Austin, Texas 78711-3087 • 512/239-1000 • Internet address: www.tceq.state.tx.us

PROJECT DESCRIPTION

The proposed modification is to drainage area D, lot 5 (5.707 acres) and area contributing to the North treatment basin. This area represents a portion of the area listed in the initial approval as "unidentified future commercial development."

The modification application proposes that the commercial/retail development for lot 5 will consist of the following:

- A 20,000 square foot (sq. ft.) retail facility,
- A 4,055 sq. ft. bank with drive thru area,
- 99 parking spaces, sidewalks and associated paved drives, and
- A septic tank and a drain field.

The proposed modification will not involve any physical modification to the constructed water quality pond - North treatment basin.

According to a letter dated, April 14, 2005, signed by Thomas H. Hornseth, P.E., with Comal County, a portion of the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site and potentially flowing across and off the site after construction, two partial sedimentation filtration basins were designed and constructed according to the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (June 1999). Table I summarizes the permanent treatment for the site as approved in the initial approval letter dated August 16, 2005.

Table I

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
North	21.89	17.51	80	1.18	116,382	184,951	10,269	26,963	13,977.98	19,798.66
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15
North Untreated	12.92	0.75	5.8	-	-	-	-	-	481.50	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	26.61	50.2	-	-	-	-	-	20,921.84	28,440.81

Table II summarizes the permanent treatment as proposed in the modification application.

Table II

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
North*	21.33	16.90	79.2	1.60	91,182	184,951	5,066	26,963	15,399.98	17,244.07
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15
North * Untreated	13.48	1.00	7.4	-	-	-	-	-	897.6	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	26.25	49.5	-	-	-	-	-	22,699.94	25,886.22

* data calculated utilizing TCEQ technical guidance document RG-348 (2005)

The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the Contributing Zone Plan approval letter dated August 16, 2005.

II. All sedimentation/filtration basins shall be operational prior to occupancy or use of any of the facilities within their respective drainage areas.

III. All sediment and/or media removed from the sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

IV. Intentional discharges of sediment laden stormwater are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetative filter strips, sediment traps, rock berms, silt fence rings, filters, etc.

V. Since the future development is conceptual and lay out and grading plans are not available for development activities in Drainage Areas B, E, and G, modifications to the CZ plan will be required for future construction activities within these drainage areas. Future modifications must utilize the current technical guidance manual and calculations to ensure the proposed measures meet the required 80 percent removal of the increased load in total suspended solids caused by the entire site. Target TSS removal and design TSS removal for each treatment basin shown the tables above must be calculated in accordance with the most current guidance.

VI. A copy of the on site sewage facility permit for each on site sewage facility system that will be installed on the site must be provided within 30 days of the permit being issued.

VII. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to record the approval is enclosed.

VIII. For any future modifications to any of the permanent BMPs on this site, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.

IX. The applicant shall provide all contractors with a copy of pages 1-35 through 1-60 of TCEQ TGM RG-348 (2005) as a guide for soil stabilization practices and assure that any soil stabilization is performed is in accordance with these practices and the approved plan.

X. In addition to the rules of the commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the

executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

14. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Amy Burroughs of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4023.

Sincerely,

Bobby D. Caldwell

for Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/AEB/eg

Enclosure(s): Change in Responsibility for Maintenance on Permanent BMPs-Form TCEQ-10263
Deed Recordation Affidavit, Form TCEQ-0625

fc/cc: Mr. Coy D. Armstrong, P.E., Bury + Partners-SA, Inc.
Mayor Sarah Stevick, City of Bulverde
Mr. Tom Hornseth, Comal County
Mr. Robert J. Potts, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 16, 2005

Mr. Jacob R. Pritcher, Jr.
Home Depot U.S.A., Inc.
2800 Forest Lane
Dallas, TX 75234

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Bulverde Home Depot; Located near the south west corner of the intersection of SH 46 and US Hwy 281; Bulverde, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 2338.00
Regulated Entity No.: RN104608955
Investigation No.: 400265

Dear Mr. Pritcher:

The Contributing Zone Plan application for the referenced project was submitted to the San Antonio Regional Office by Coy D. Armstrong, P.E. of Bury & Partners - SA, Inc. on behalf of Home Depot U.S.A., Inc. on April 25, 2005. Final review of the CZP was completed after additional material was received on July 7, 2005, August 8, 2005, August 11, 2005, and August 16, 2005. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Contributing Zone Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10% of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will be located on 53 acres and will consist of the construction of a Home Depot store, parking, driveways, utilities, a public road, and 17.84 acres of unidentified future commercial development. The proposed impervious cover for the development is approximately 26.61 acres (50.2 % of the total area of the site). According to a letter dated, April 14, 2005, signed by Thomas H. Hornseth, P.E., with Comal County, a portion of the site in the development is acceptable for the use of on-site sewage facilities.

REPLY TO: REGION 13 • 14250 JUDSON RD. • SAN ANTONIO, TEXAS 78233-4480 • 210/490-3096 • FAX 210/545-4329

P.O. Box 13087 • Austin, Texas 78711-3087 • 512/239-1000 • Internet address: www.tceq.state.tx.us

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site and potentially flowing across and off the site after construction, two partial sedimentation filtration basins designed using the TNRCC technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (June 1999) will be constructed. The following table summarizes the permanent treatment for the site.

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Actual Estimated TSS Removal (lb/yr)
North	21.89	17.51	80	1.18	116,382	184,951	10,269	26,963	13,977.98	19,798.66
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15
North Untreated	12.92	0.75	5.8	-	-	-	-	-	481.50	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	26.61	50.2	-	-	-	-	-	20,921.84	28,440.81*

*Treatment of more than 80% of the total load generated will be treated.

The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

SPECIAL CONDITIONS

I. All sedimentation/filtration basins shall be operational prior to occupancy or use of any of the facilities within their respective drainage areas.

II. All sediment and or media removed from the sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

III. Intentional discharges of sediment laden stormwater are not allowed. If dewatering becomes necessary, a plan for removing at least 80% of the sediment load from the discharge must be submitted to the San Antonio Regional Office prior to initiating any discharges. The plan must propose how the discharge will be filtered through appropriately selected best management practices. These include vegetative filter strips, sediment traps, rock berms, silt fence rings, filters, etc.

IV. Since the future development is conceptual and lay out and grading plans are not available for development activities in Drainage Areas B, D, E, and G, modifications to the CZ plan will be required for future construction activities within these drainage areas.

V. A copy of the on site sewage facility permit for each on site sewage facility system that will be installed on the 53 acre site must be provided within 30 days of the permit being issued.

VI. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TNRCC-0625) that you may use to record the approval is enclosed.

VII. Treated and discharged stormwater from the north water quality treatment basin and the north detention pond must not be directed to the off-site H.E.B. water quality basin.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

14. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Lynn M. Bumguardner of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4023.

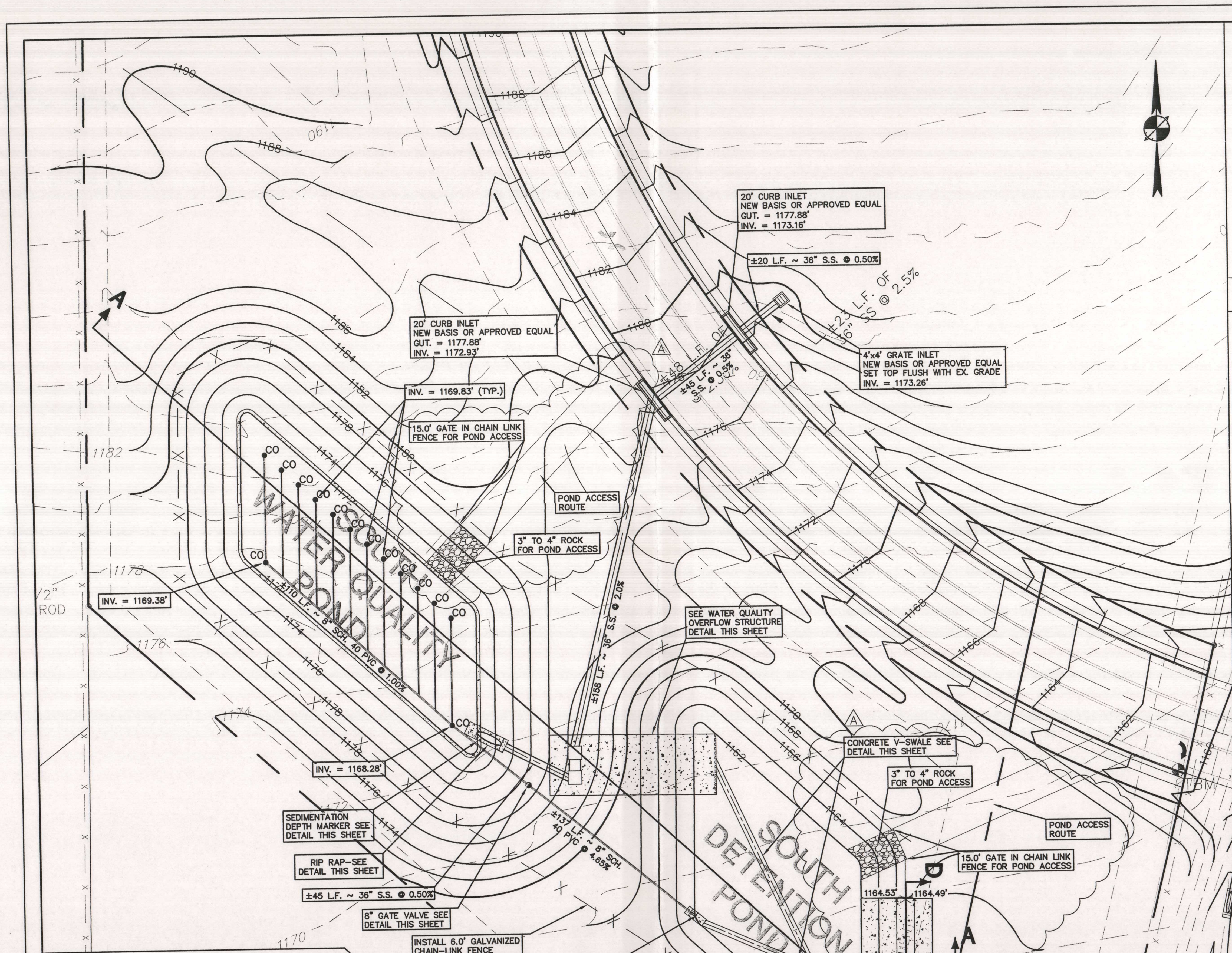
Sincerely,

Bobby D. Caldwell
for
Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/LMB/eg

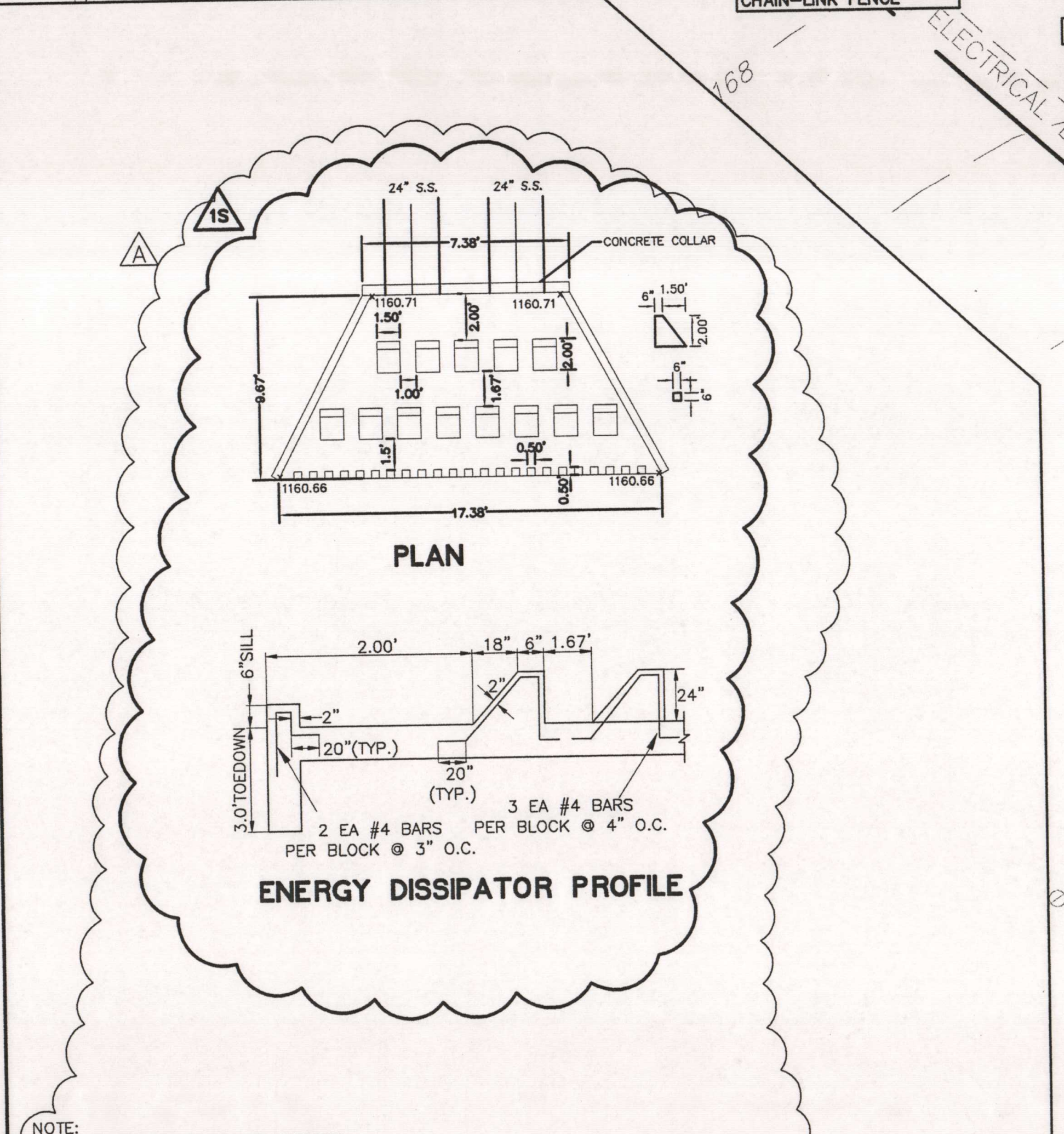
Enclosure(s): Change in Responsibility for Maintenance on Permanent BMPs-Form TCEQ-10263

fc: Mr. Coy D. Armstrong, P.E., Bury + Partners -SA, Inc.
Mayor Pro Tem Sarah Stevick, City of Bulverde
Mr. Tom Hornseth, Comal County
cc: Mr. Robert J. Potts, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212



C5.4.1 WATER QUALITY POND - PLAN VIEW

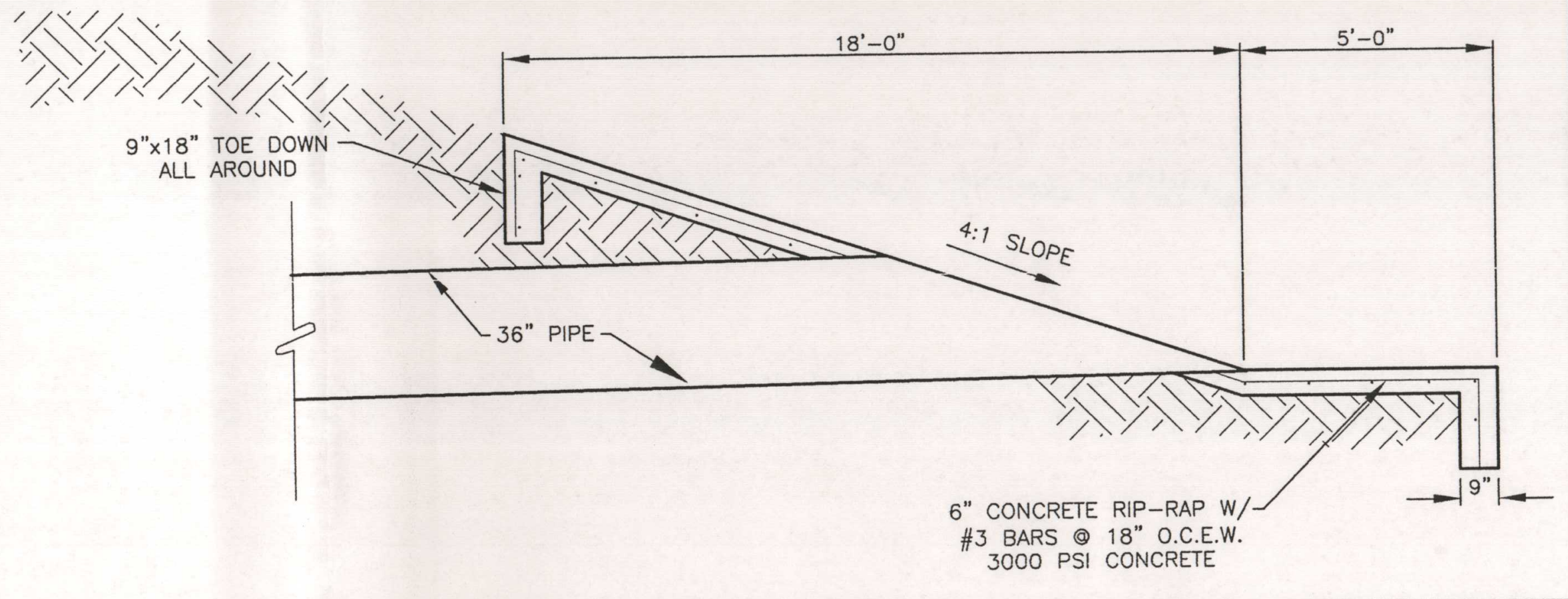
SCALE: 1" = 30'-0"



NOTE:
1. ALL CONCRETE SHALL BE 3000PSI IN 28 DAYS
2. REFER TO TxDOT STANDARD CH-FW-0

C5.4.0 DISSIPATOR BLOCK DETAIL

SCALE: N.T.S.



C5.4.2 RIP-RAP DETAIL

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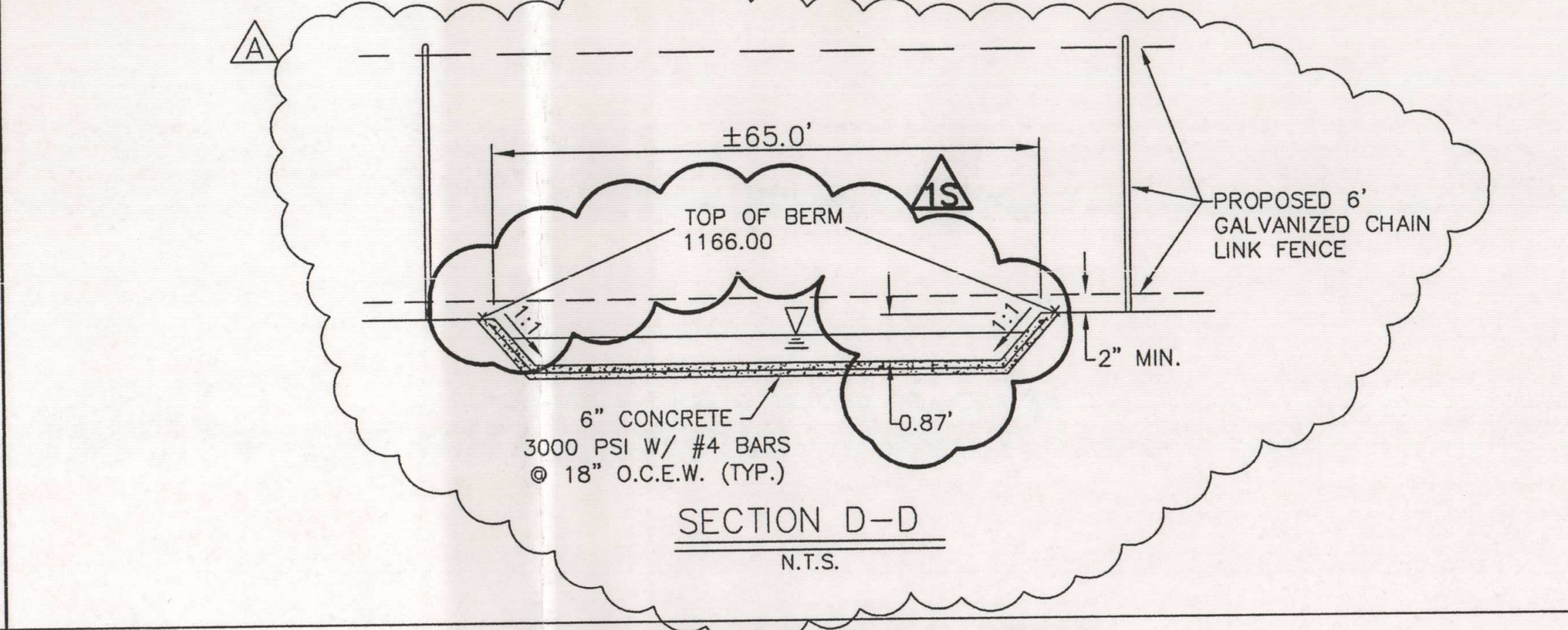
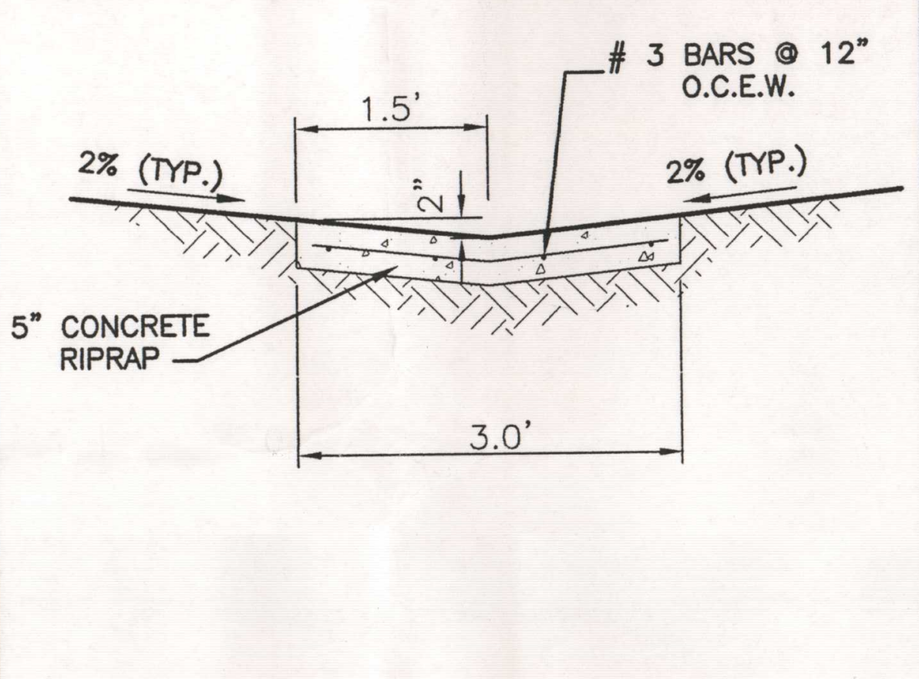


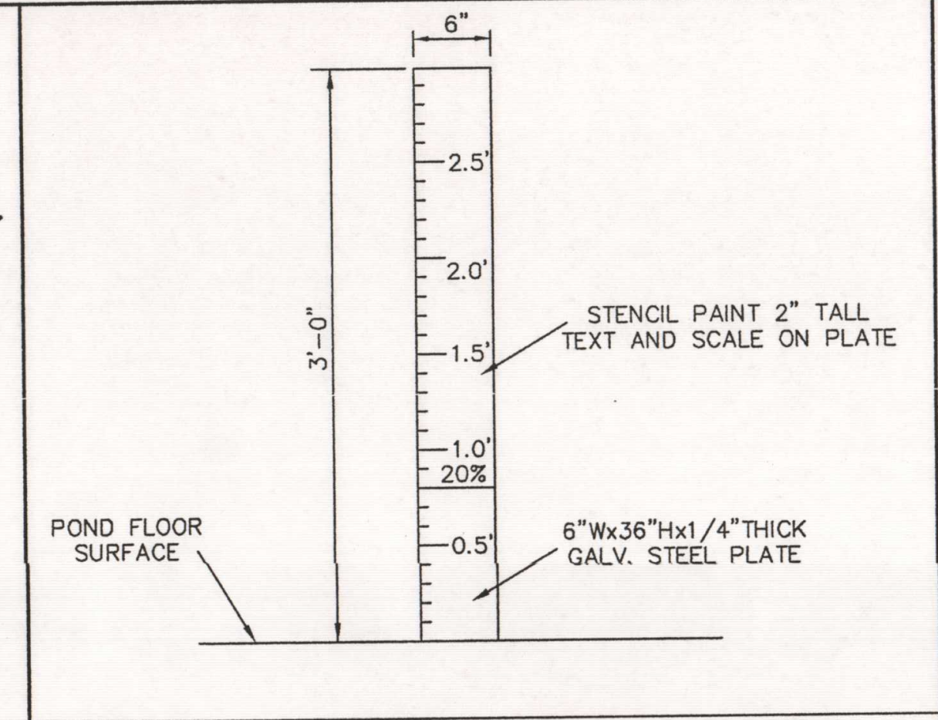
C5.4.3 OVERFLOW STRUCTURAL DETAIL

SCALE: N.T.S.



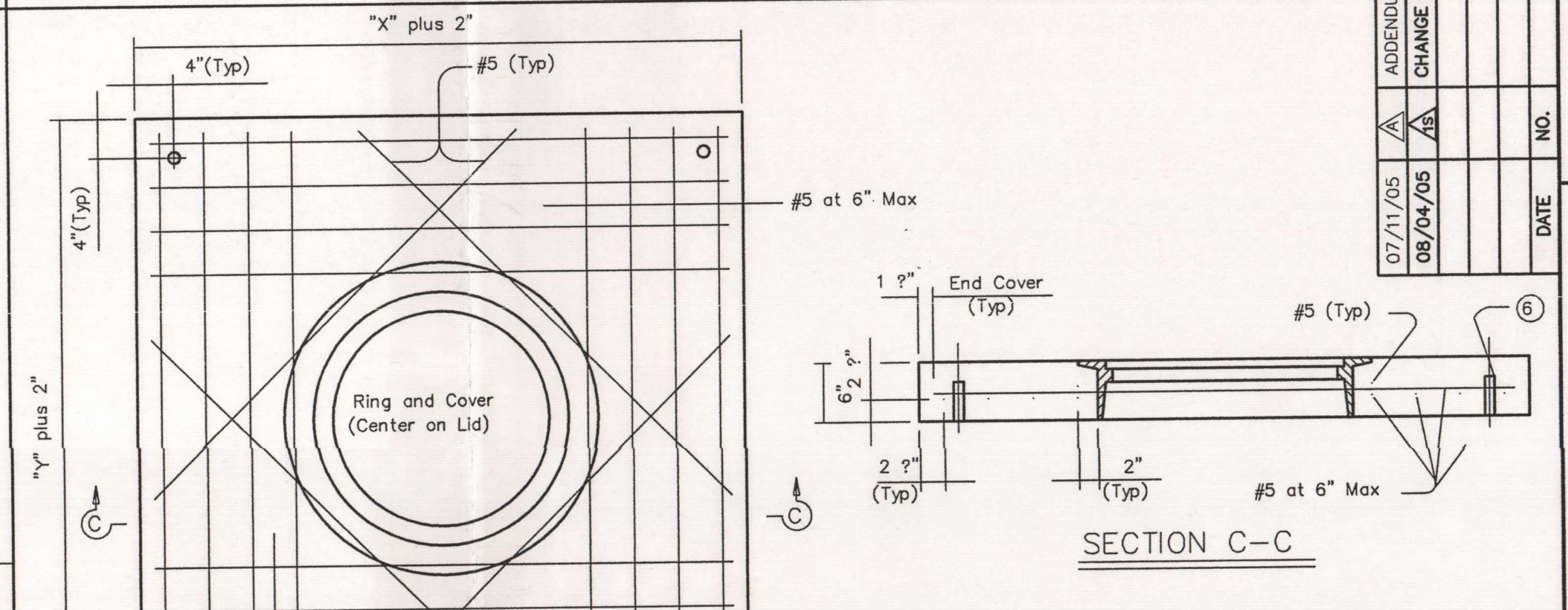
C5.4.4 CONCRETE V- SWALE

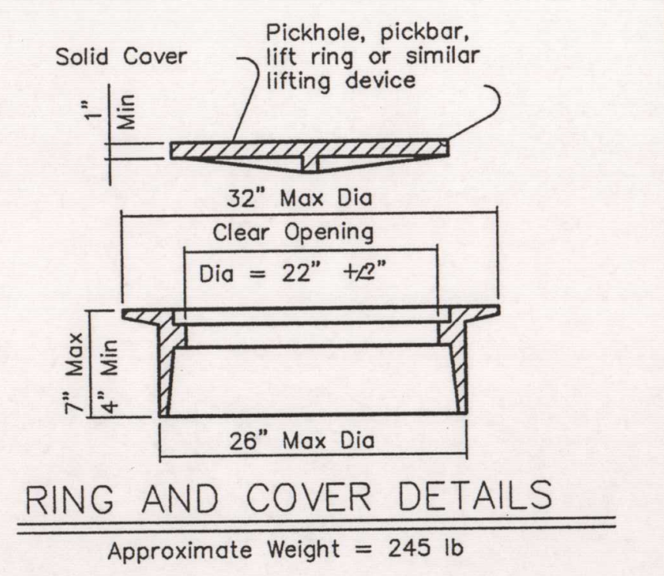
SCALE: N.T.S.



C5.4.5 SEDIMENT DEPTH MARKER

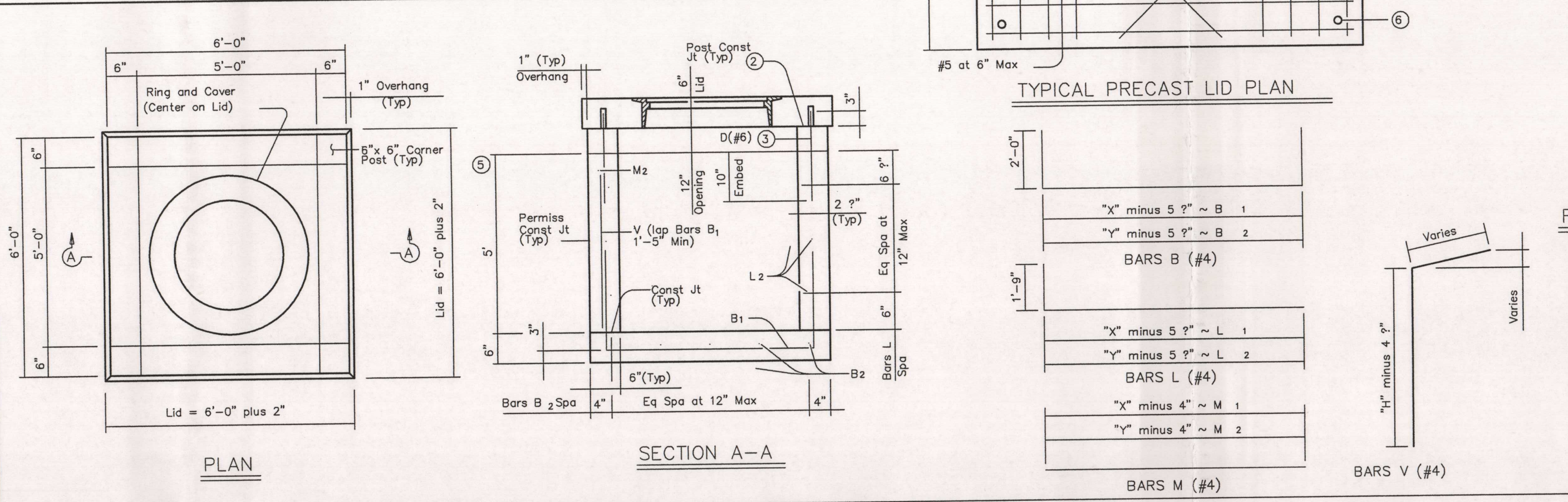
SCALE: N.T.S.





RING AND COVER DETAILS

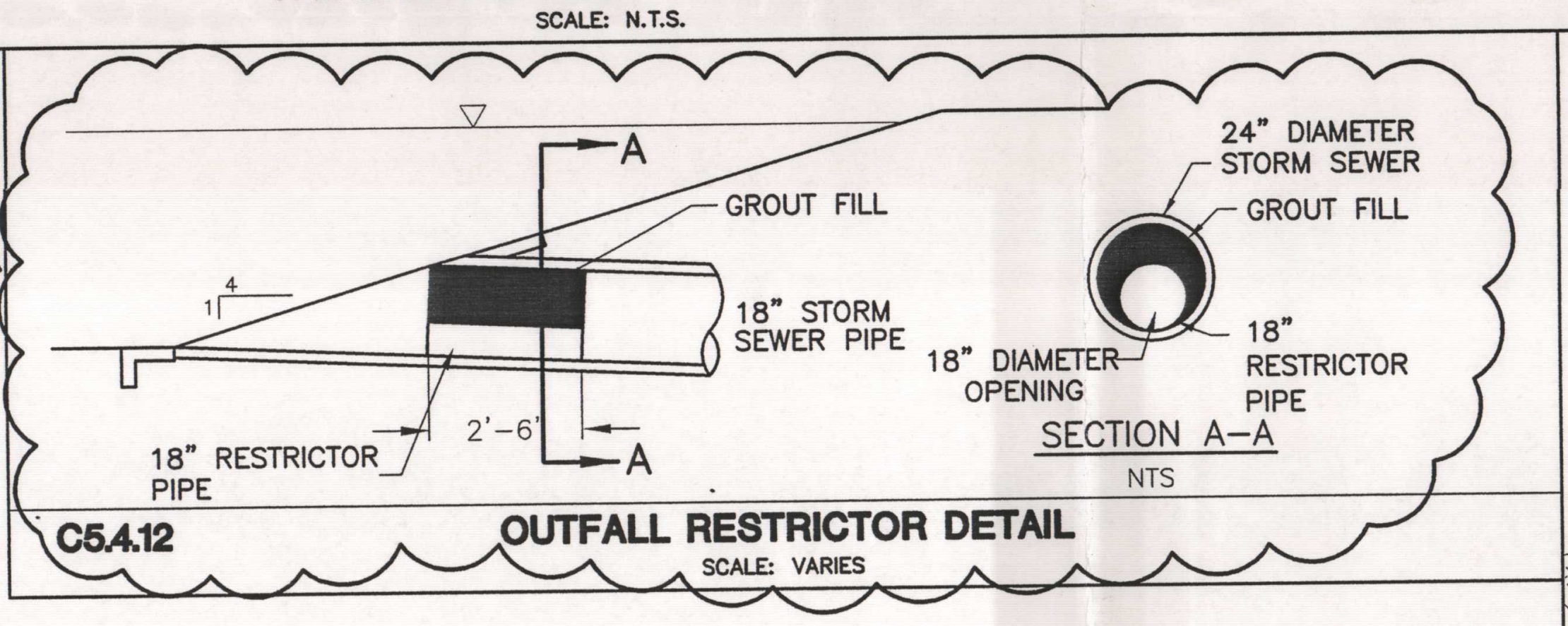
Approximate Weight = 245 lb



① May be changed as directed by the Engineer.
② Place layer of grout between lid and corner posts to provide stable seating of lid.
③ Center Dowels D in corner posts. (Typ)
④ Not Used
⑤ Not Used
⑥ Form holes in lid for Dowels D using 1" Dia x 4" PVC Pipe (SCH 40) (Typ)

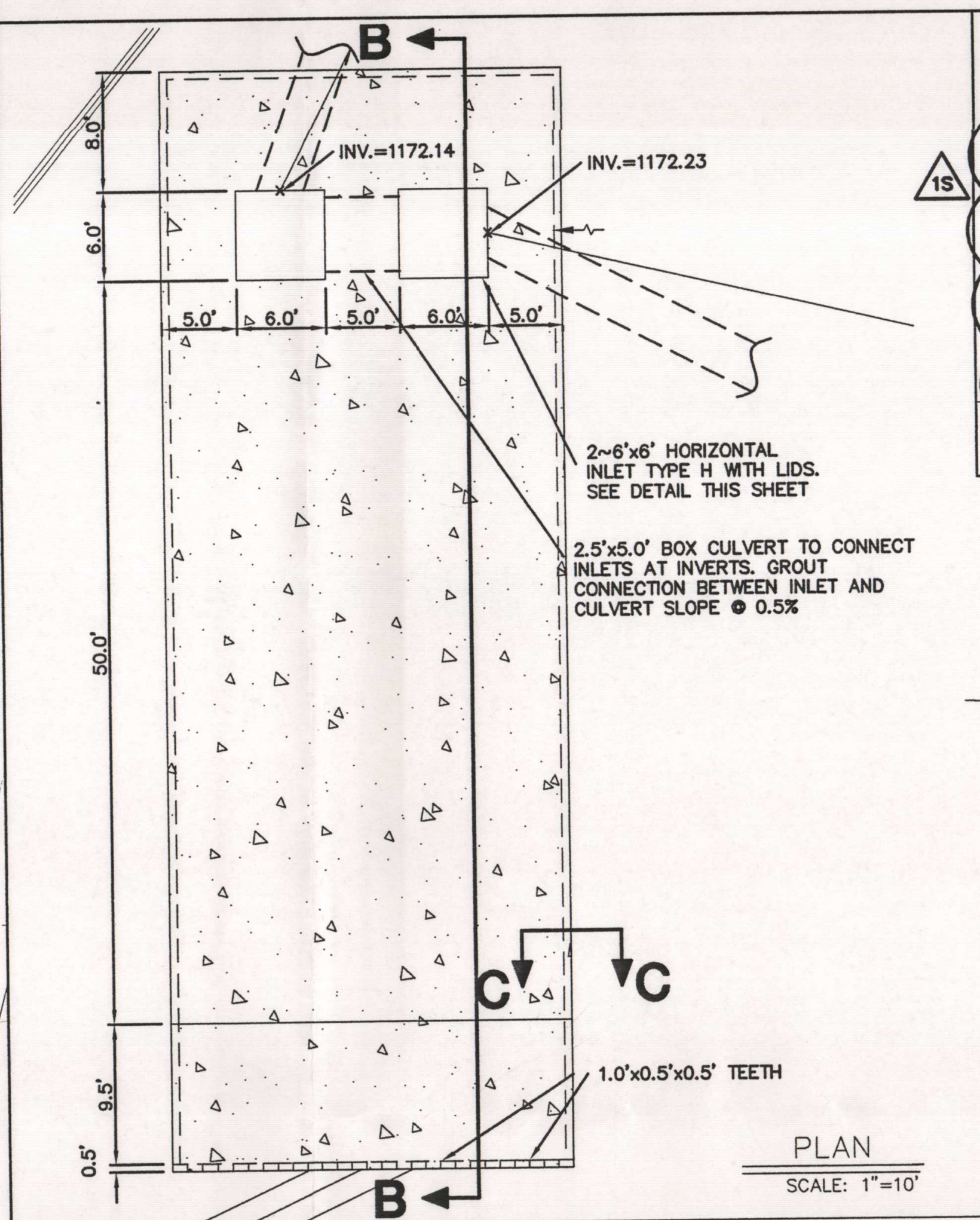
C5.4.6 HORIZONTAL INLET TYPE H DETAIL

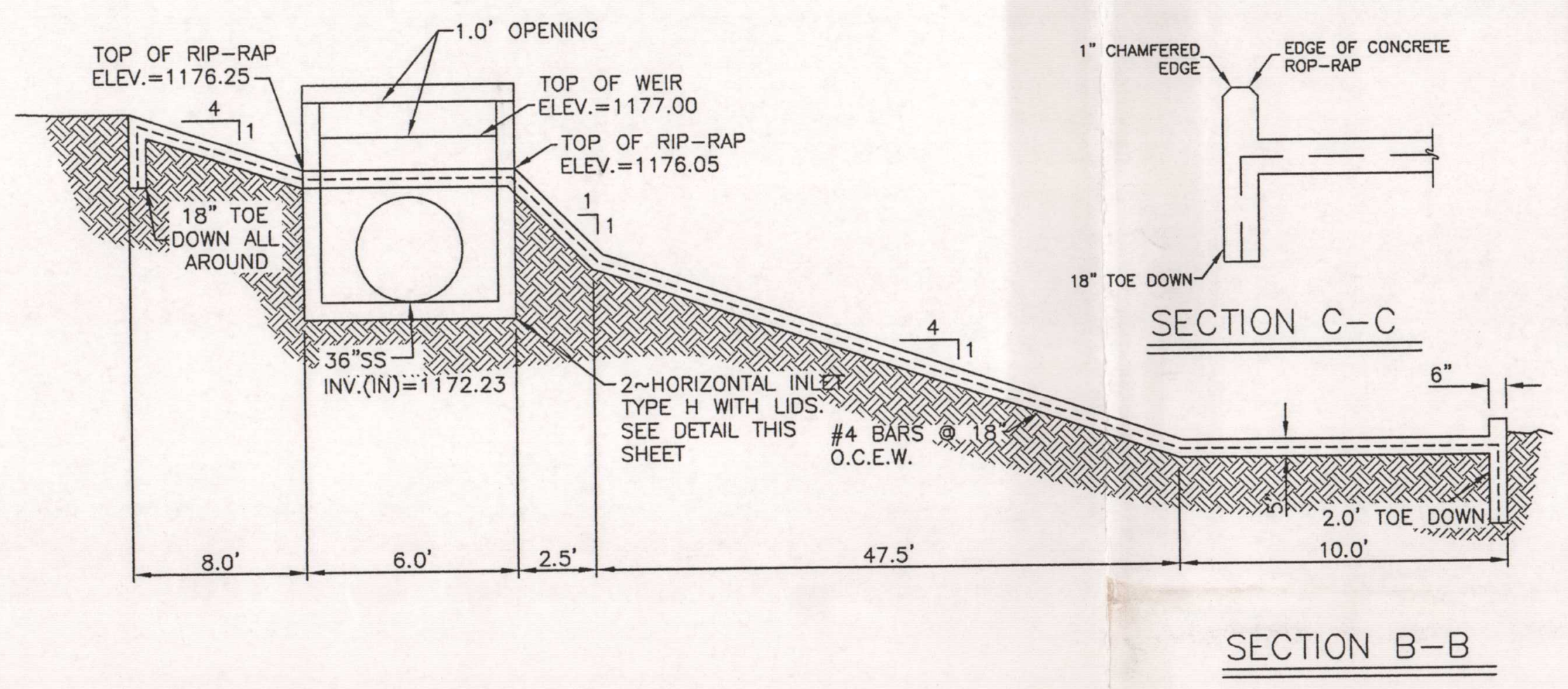
SCALE: N.T.S.



C5.4.12 OUTFALL RESTRICTOR DETAIL

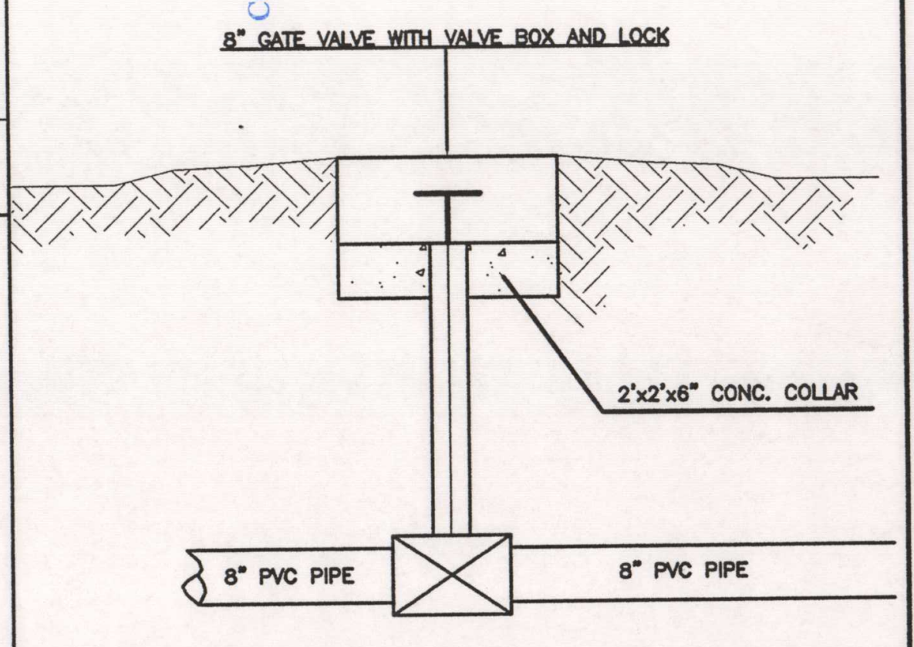
SCALE: VARIES





C5.4.7 WATER QUALITY OVERFLOW STRUCTURE DETAIL

SCALE: N.T.S.



NOTE:
VALVE WILL BE SET PARTIALLY CLOSED SO AS TO PROVIDE A MINIMUM DRAWDOWN TIME OF 24 HRS.

C5.4.8 8" GATE VALVE DETAIL

SCALE: N.T.S.

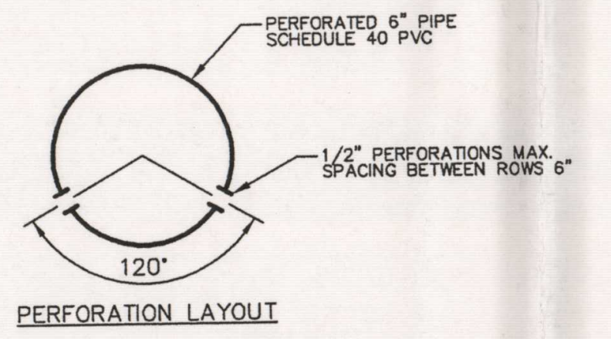
PROPERTY	TEST METHOD	UNIT	SPECS.
MATERIAL			NONWOVEN GEOTEXTILE
UNIT WEIGHT		OZ/SQ.YD.	8 (MIN.)
FILTRATION RATE		IN/SEC	0.08 (MIN.)
GRAB STRENGTH	ASTM D-4632	LB.	90 (MIN.)
PUNCTURE STRENGTH	ASTM D-751	LB.	125 (MIN.)
MULLEN BURST STRENGTH	ASTM D-751	PSI.	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	300 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80 (MIN.)

SAND BED AND GEOTEXTILE FABRIC

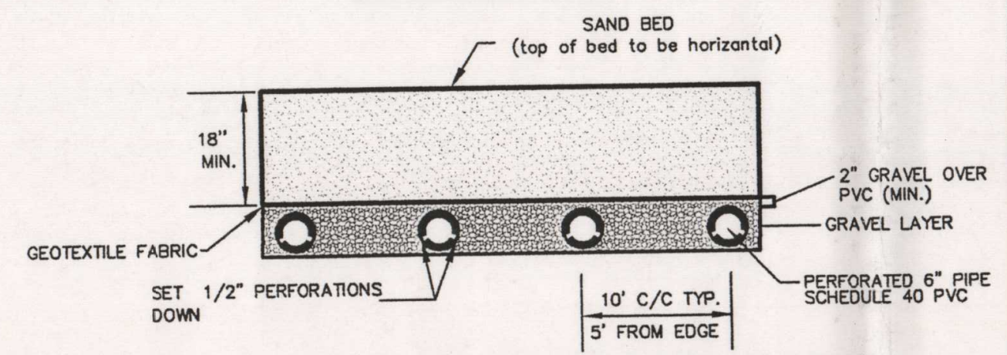
FIRST (TOP) LAYER- FINE SAND, 0.02-0.04 INCH, 18 INCH DEPTH

SECOND LAYER- 1/2-2 INCH GRAVEL, AT LEAST 1 INCH DEPTH TO 2 INCH DEPTH SURROUNDING UNDERDRAIN PIPING

THE TWO LAYERS MUST BE SEPARATED FROM EACH OTHER USING SUITABLE GEOTEXTILE FABRIC MEETING THE ABOVE SPECIFICATIONS:



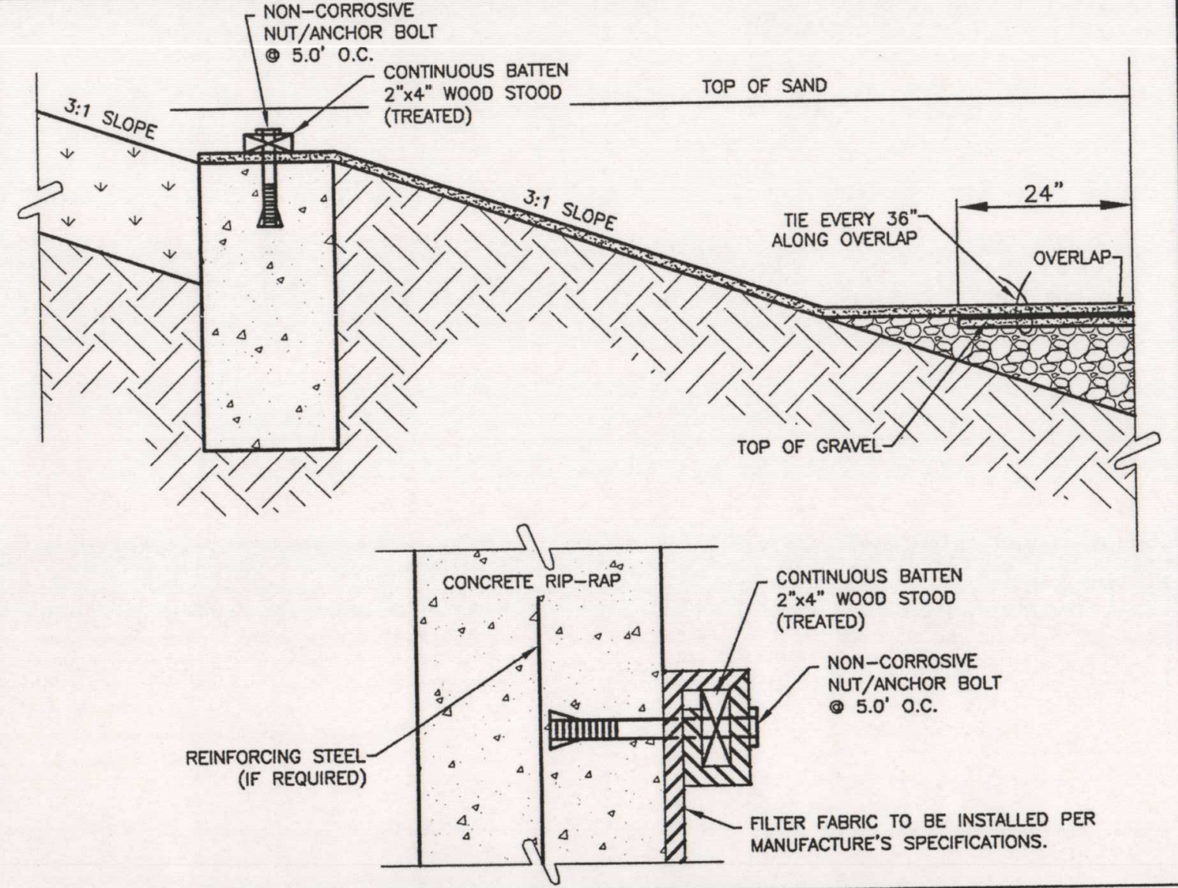
PERFORATION LAYOUT



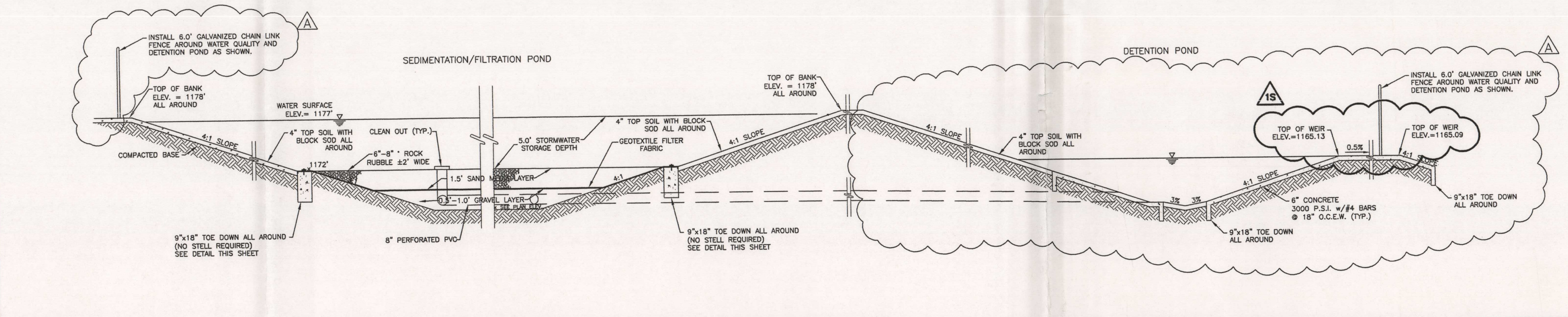
A. SAND BED PROFILE (with gravel filter)

C5.4.9 FILTRATION POND SAND BED W/ GEOTEXTILE FABRIC

SCALE: N.T.S.



C5.4.10 FILTER FABRIC & ANCHORING DETAIL



C5.4.11 CROSS SECTION A-A

SCALE: N.T.S.

DATE	NO.	REVISION	APPROVAL
07/11/05	A	ADDENDUM "A"	
08/04/05	1S	CHANGE BULLETIN "1S"	

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529
Bury+Partners-SA, Inc. ©Copyright 2005

COY D. ARMSTRONG
87617

Coy D Arty
8/8/05

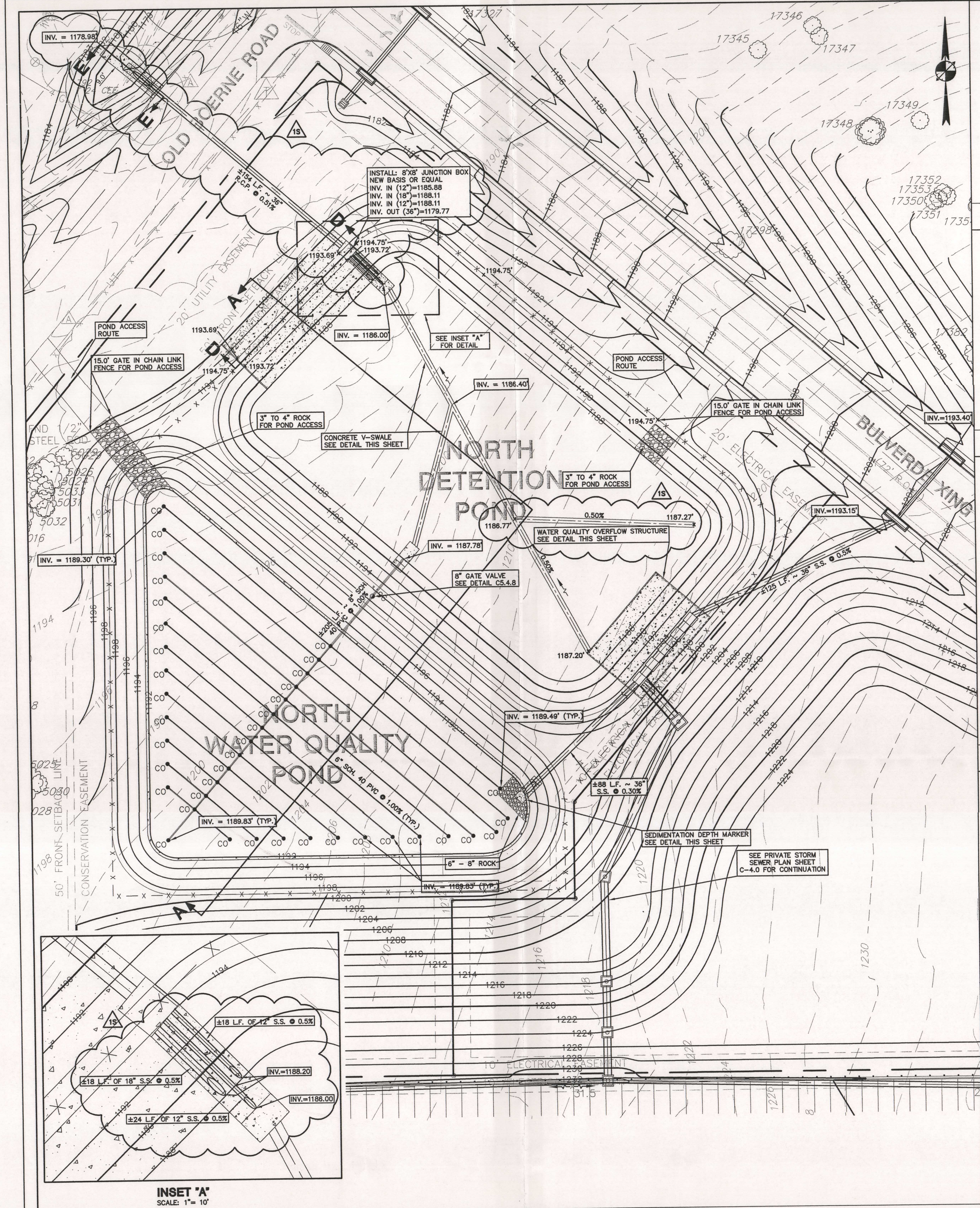
THE HOME DEPOT
BULVERDE, TEXAS

SOUTH WATER QUALITY POND
AND DETENTION DETAILS

PLOTTING SCALE: 1" = 1"
DATE REVISED: 07/27/05
FILE: G:\048\53\04853WQP01-SOUTH.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-54.00

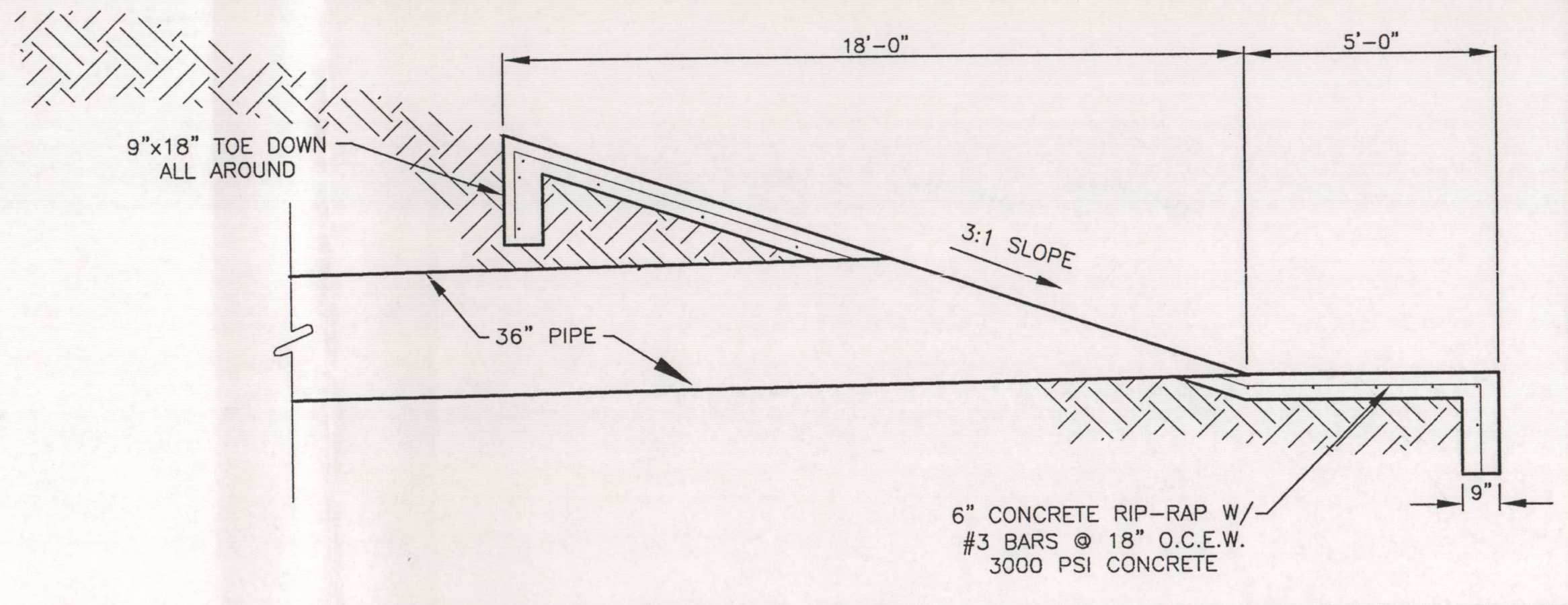
SHEET
C-5.4

Date: Aug 08, 2005, 1:51pm User ID: tvicuna
File: G:\048\53\04853WQP01-SOUTH.dwg



INSET "A"
SCALE: 1"= 10'

C5.2.1 **WATER QUALITY POND - PLAN VIEW**
SCALE: 1"= 30'



C5.2.2 **RIP-RAP DETAIL**
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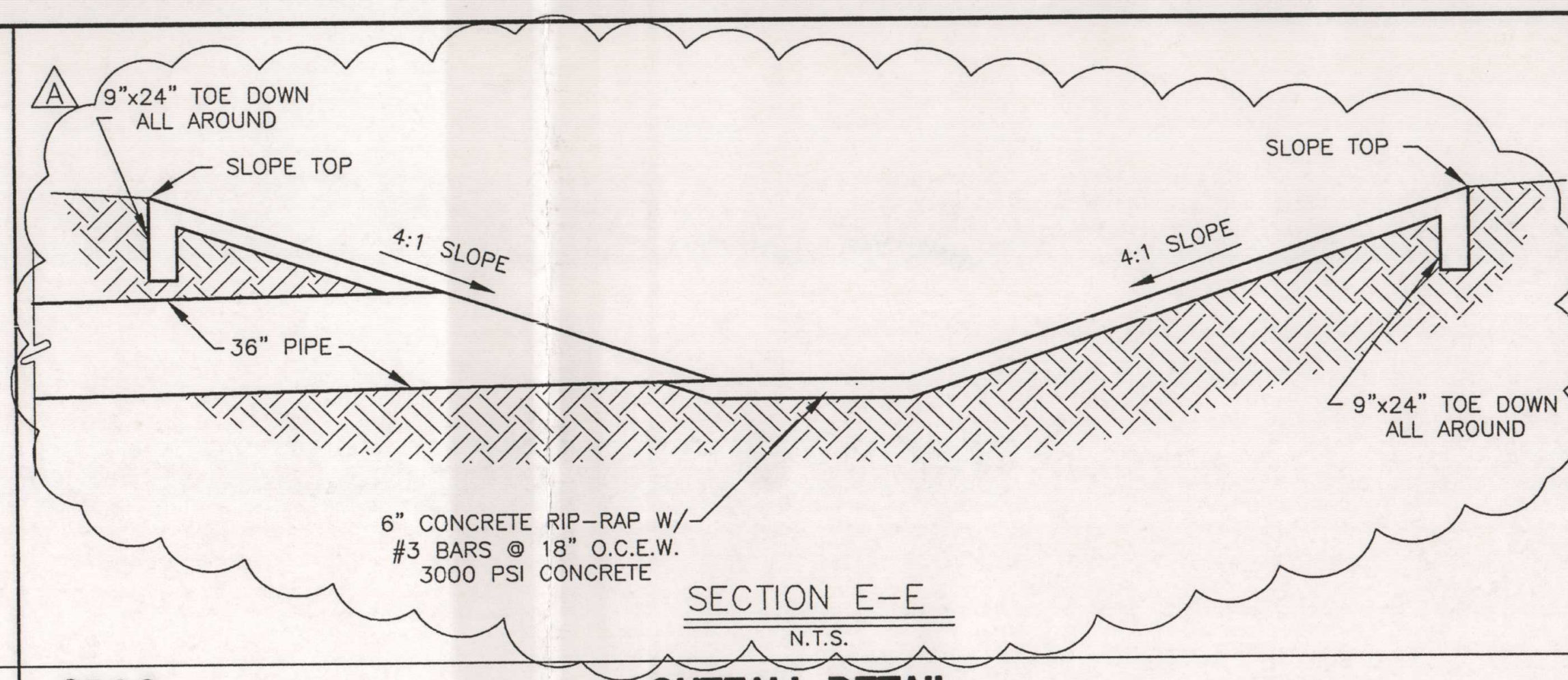

C5.2.3 **OUTFALL DETAIL**
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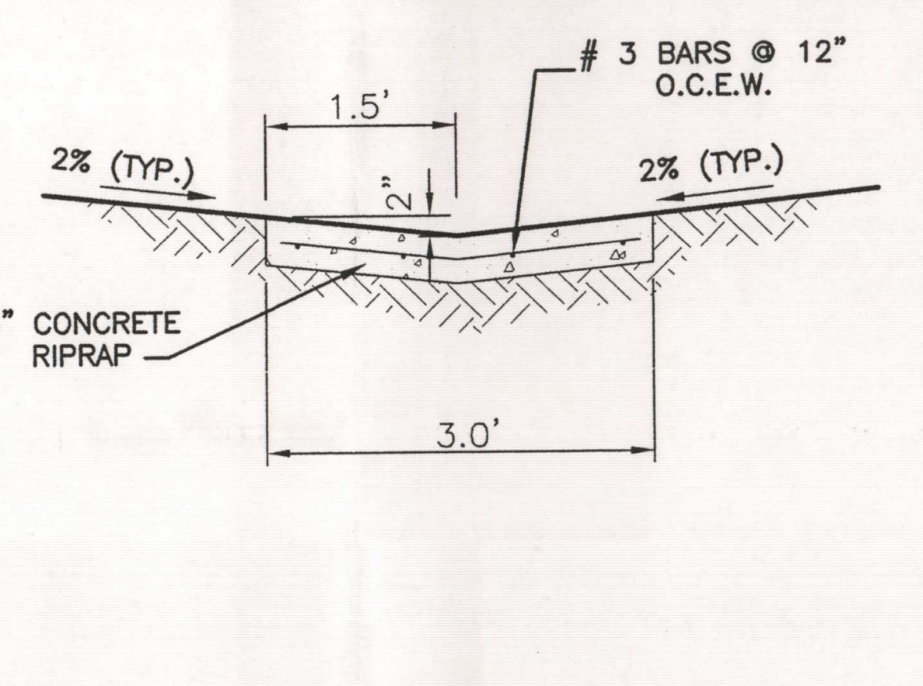
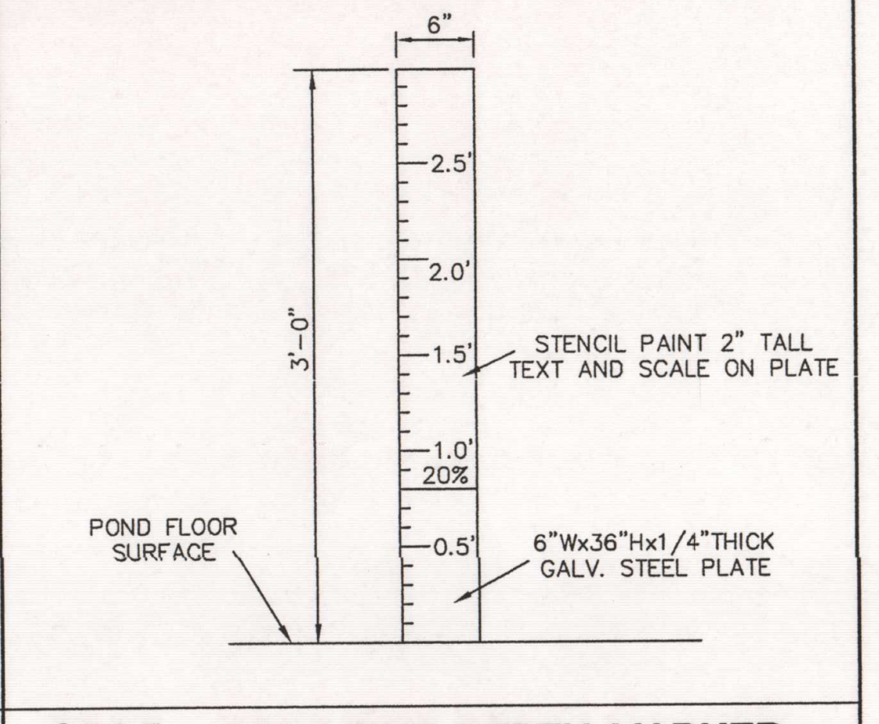
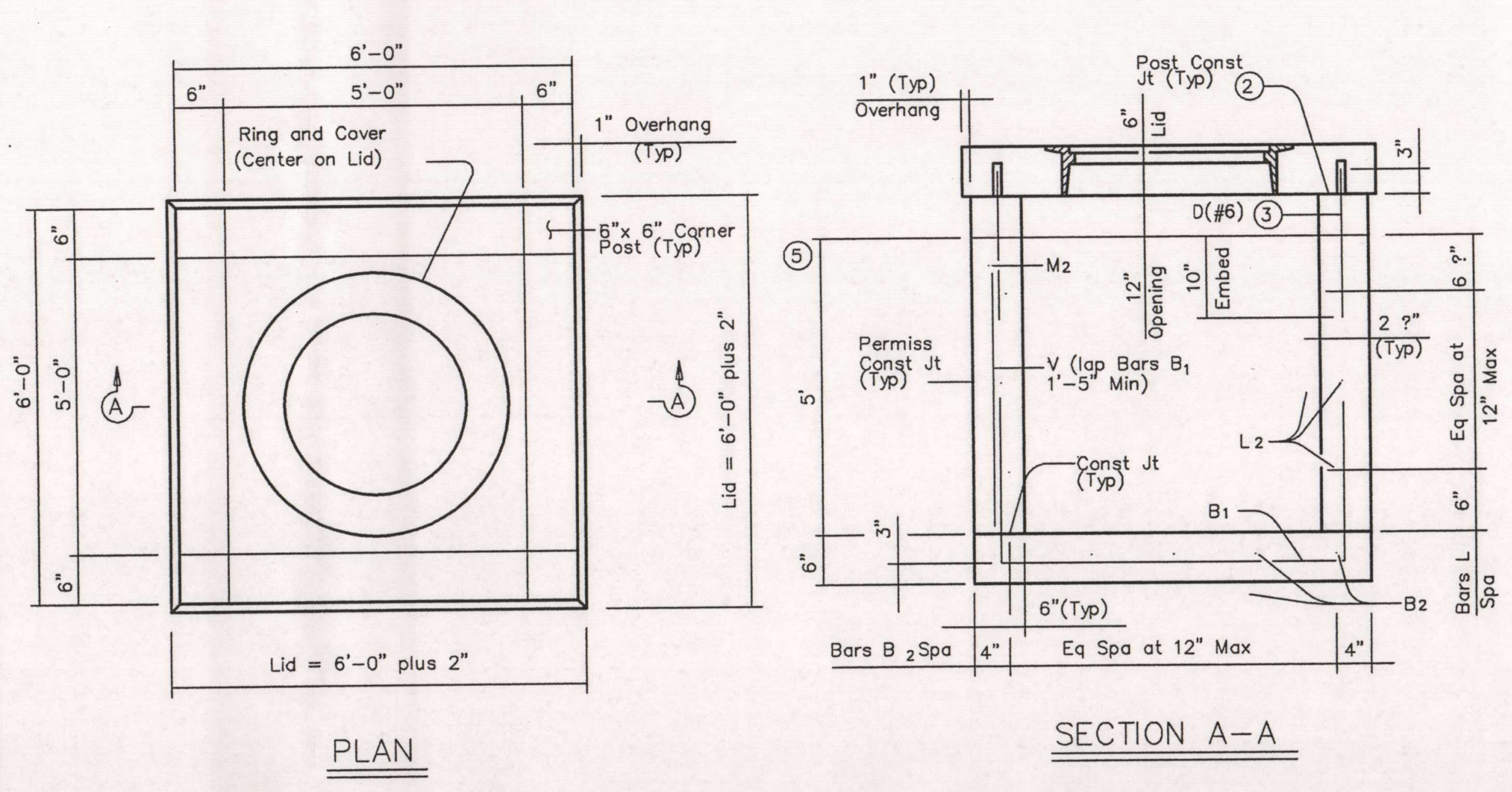
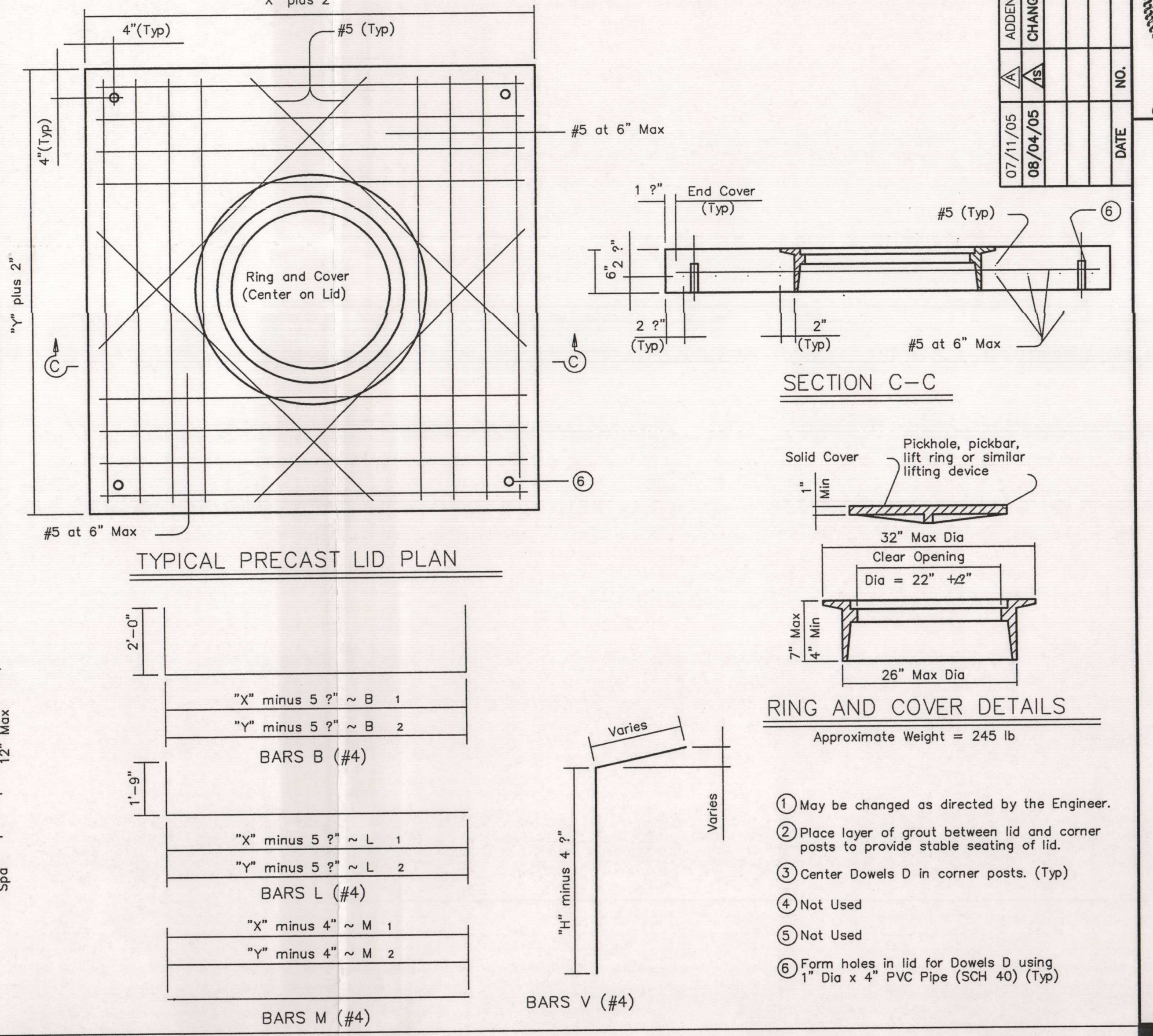


C5.2.4 **CONCRETE V- SWALE**
SCALE: N.T.S.



C5.2.5 **SEDIMENT DEPTH MARKER**
SCALE: N.T.S.





① May be changed as directed by the Engineer.

② Place layer of grout between lid and corner posts to provide stable seating of lid.

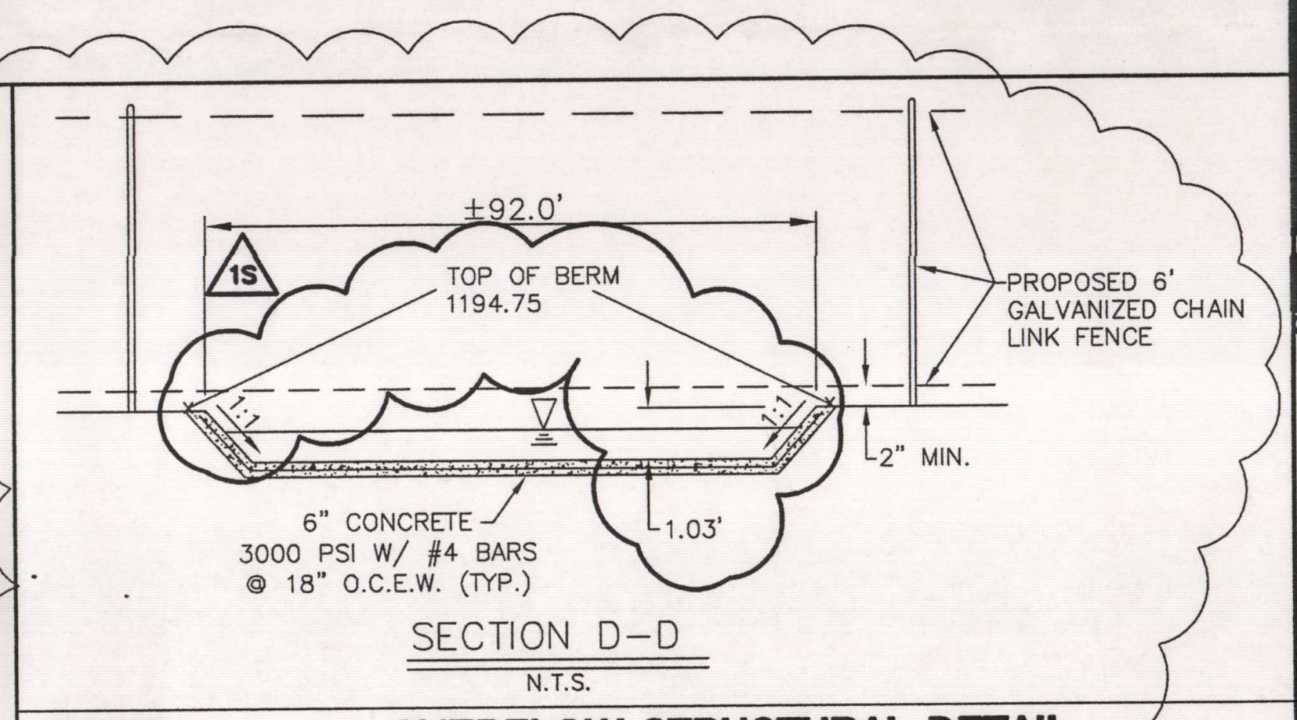
③ Center Dowels D in corner posts. (Typ)

④ Not Used

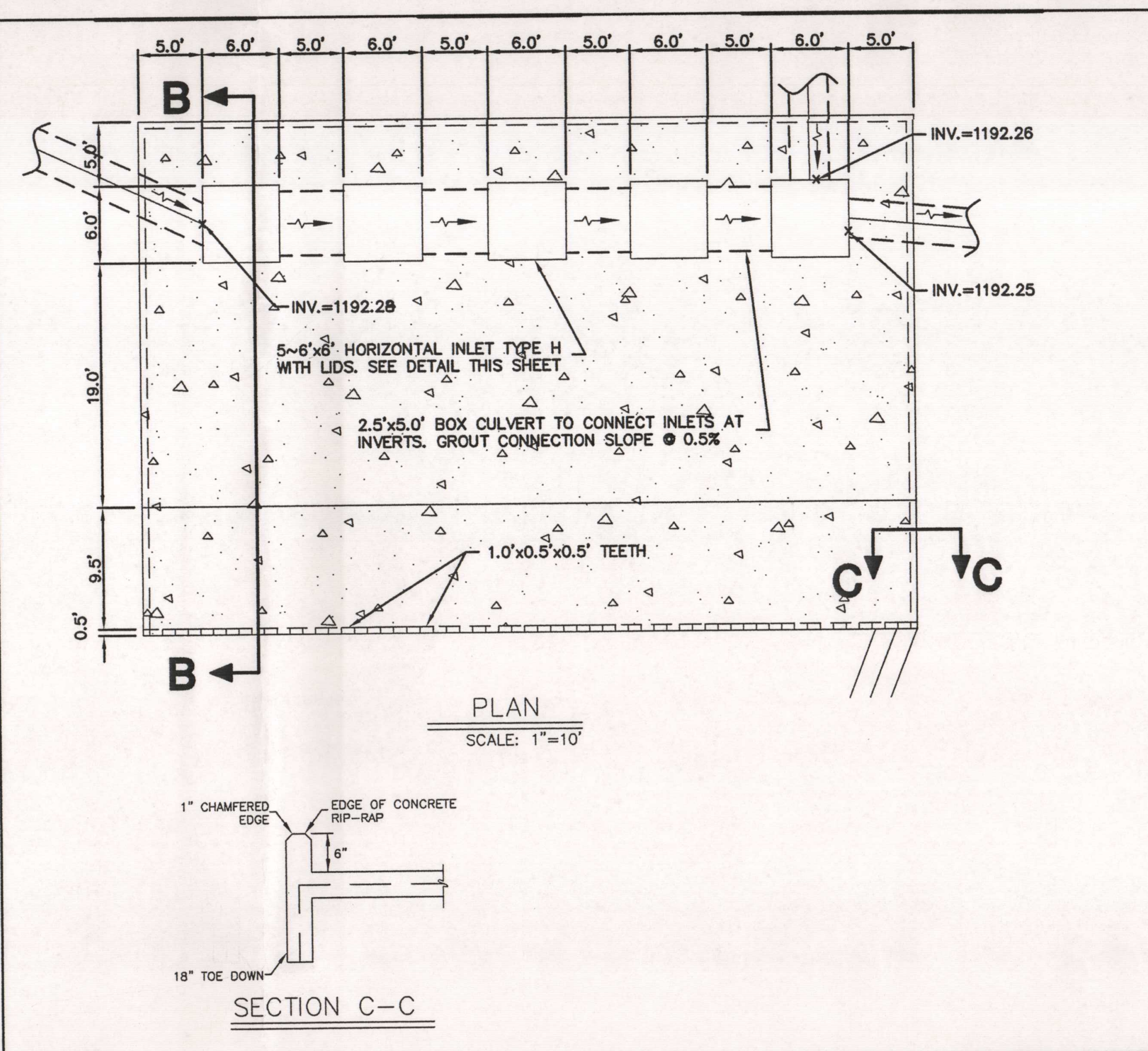
⑤ Not Used

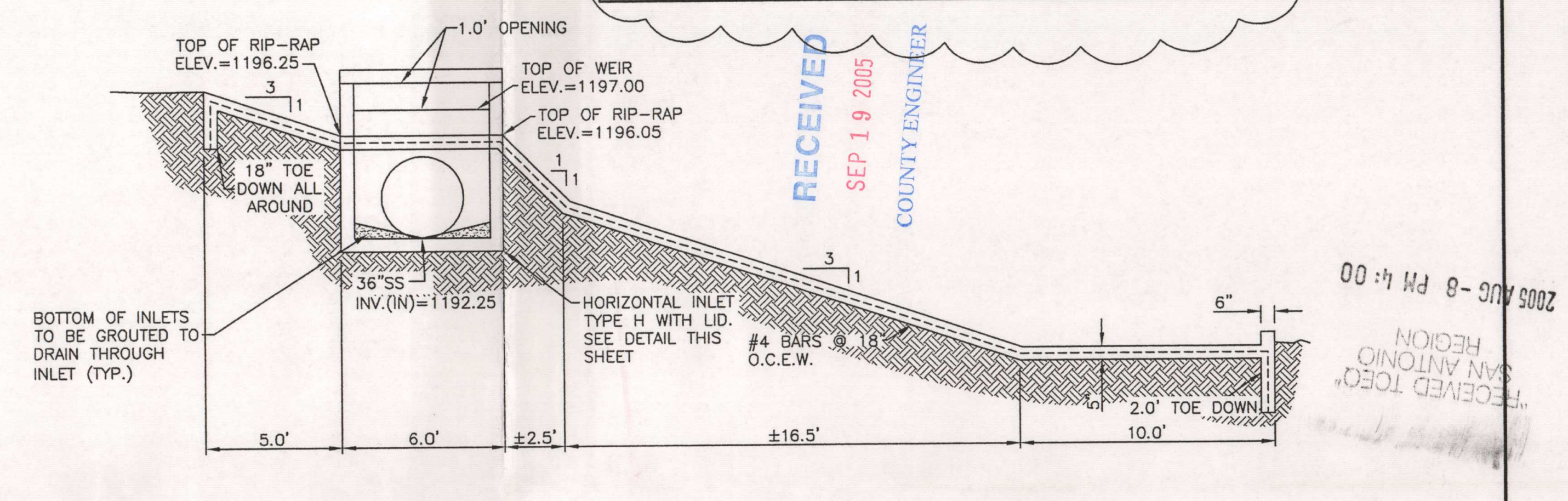
⑥ Form holes in lid for Dowels D using 1" Dia x 4" PVC Pipe (SCH 40) (Typ)

C5.2.6 **HORIZONTAL INLET TYPE H DETAIL**
SCALE: N.T.S.



C5.2.6 **OVERFLOW STRUCTURAL DETAIL**
SCALE: N.T.S.





C5.2.7 **WATER QUALITY OVERFLOW STRUCTURE DETAIL**
SCALE: VARIES

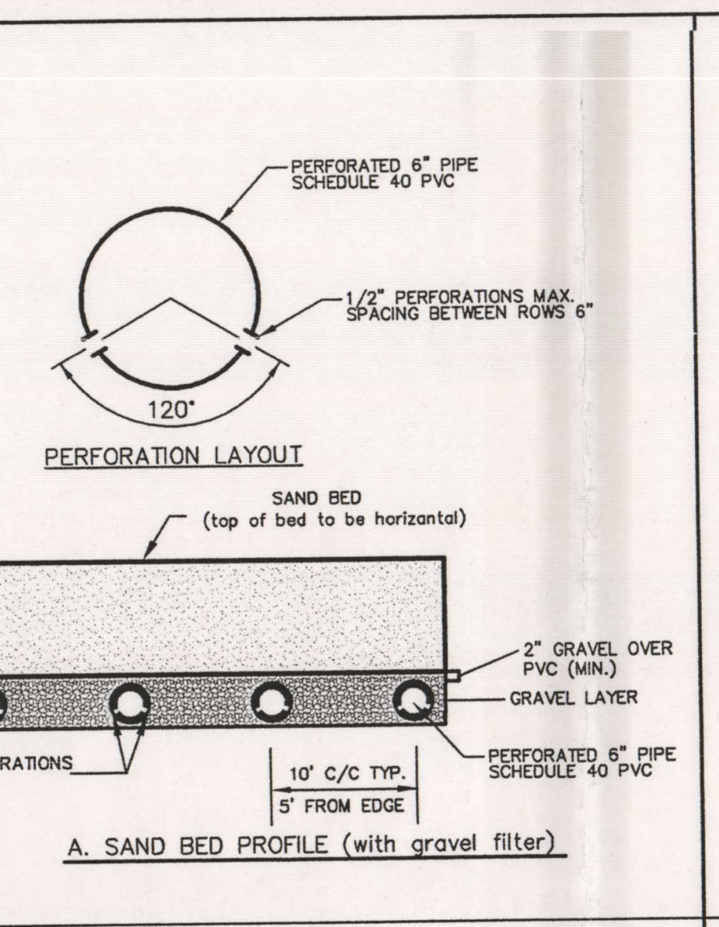
PROPERTY	TEST METHOD	UNIT	SPECS.
MATERIAL			NONWOVEN GEOTEXTILE
UNIT WEIGHT		OZ/SQ.YD.	8 (MIN.)
FILTRATION RATE		IN/SEC	0.08 (MIN.)
GRAB STRENGTH	ASTM D-4632	LB.	90 (MIN.)
PUNCTURE STRENGTH	ASTM D-751	LB.	125 (MIN.)
MULLEN BURST STRENGTH	ASTM D-751	PSI.	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	300 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80 (MIN.)

SAND BED AND GEOTEXTILE FABRIC

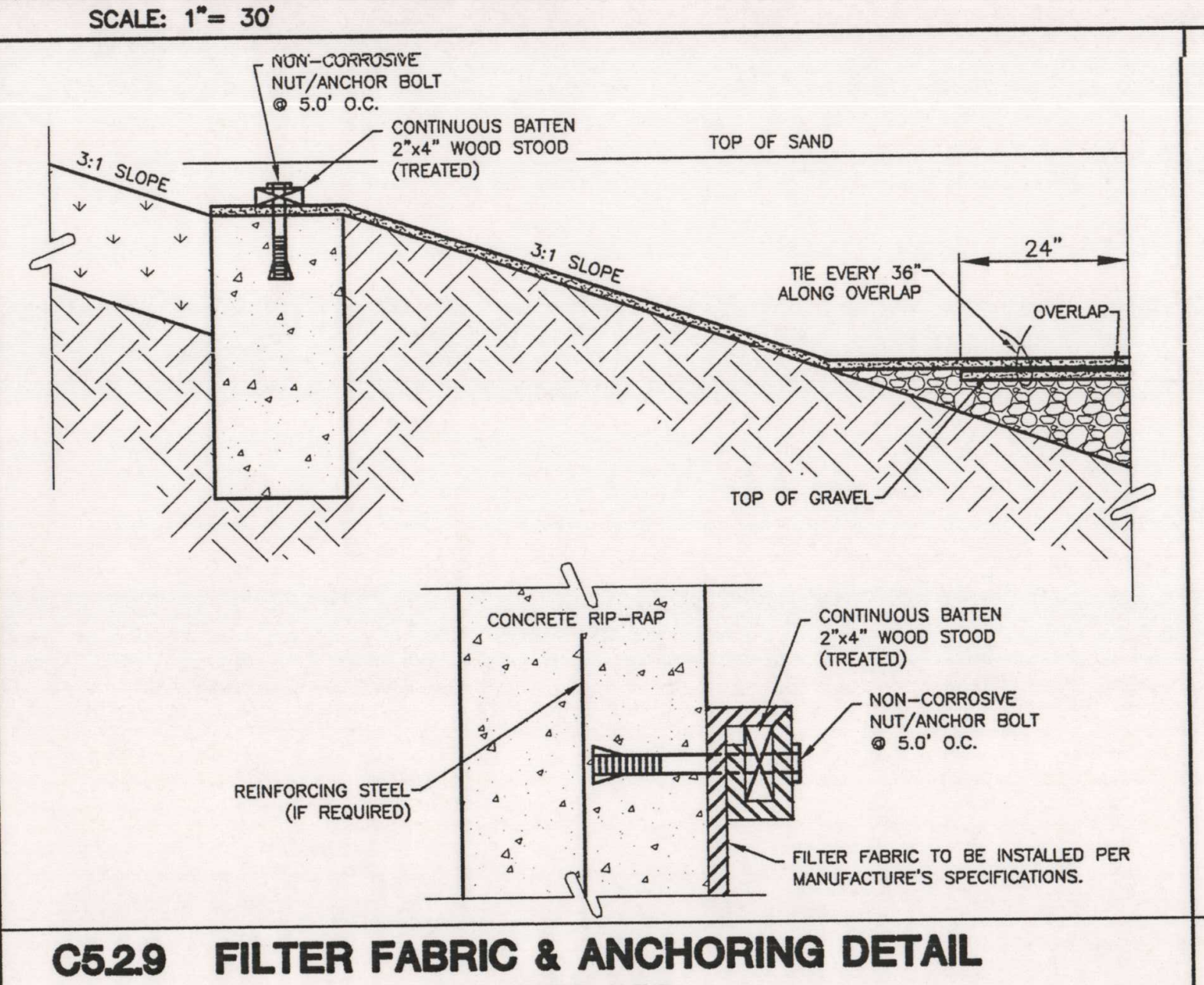
FIRST (TOP) LAYER– FINE SAND, 0.02–0.04 INCH, 18 INCH DEPTH

SECOND LAYER– 1/2–2 INCH GRAVEL, AT LEAST 1 INCH DEPTH TO 2 INCH DEPTH SURROUNDING UNDERDRAIN PIPING

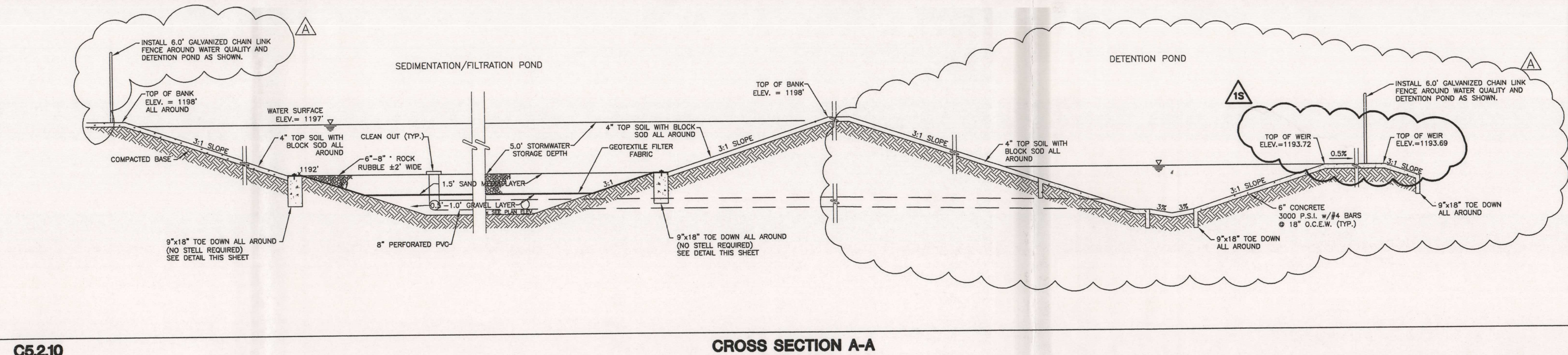
THE TWO LAYERS MUST BE SEPARATED FROM EACH OTHER USING SUITABLE GEOTEXTILE FABRIC MEETING THE ABOVE SPECIFICATIONS:



C5.2.8 **FILTRATION POND SAND BED W/ GEOTEXTILE FABRIC**
SCALE: N.T.S.



C5.2.9 **FILTER FABRIC & ANCHORING DETAIL**
SCALE: N.T.S.



C5.2.10 **CROSS SECTION A-A**
SCALE: N.T.S.

DATE	NO.	REVISION	APPROVAL
07/11/05	A	ADDENDUM "A"	
08/04/05	1S	CHANGE BULLETIN "1S"	

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525–9090 Fax (210)525–0529

STATE OF TEXAS
COY D. ARMSTRONG
87617
LICENSED
PROFESSIONAL ENGINEER

Coy D. Armstrong
8/8/05

THE HOME DEPOT
BULVERDE, TEXAS

NORTH WATER QUALITY POND
AND DETENTION DETAILS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 07/27/05
FILE: G:\048\53\04853WQP01–NORTH.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–54.00

SHEET
C-5.2

Date: Aug 08, 2005, 1:50pm User ID: tvicuna
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Texas Commission on Enviormental Quality

TSS Removal Calculations

Project: ***Home Depot Bulverde, TX (TX-413b)***
Date Prepared: 2/22/2005

Existing Load Calculations (Baseline):

Annual Load, Le = A x P x Rv x C x 0.226

where:
Le = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (32 for Travis and Williamson County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = 0.546(IC)2 + 0.328(IC) + 0.030
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (80 mg/l for undeveloped land)
0.226 = Units conversion factor

Existing Site Data:

A = 19.04 acres
P = 33 inches
IC = 0 %
C = 80 mg/l

Rv = 0.030

Le = 340.80 lbs.

Post Development Load Calculations:

Annual Load, Ld = A x P x Rv x C x 0.226

where:
Ld = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (30 for Bexar County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = $0.546(IC)^2 + 0.328(IC) + 0.030$
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (170 mg/l for developed land)
0.226 = Units conversion factor

Developed Site Data:

A = 21.89 acres
P = 33 inches
IC = 80 %
C = 170 mg/l

Rv = 0.642

Ld = 17813.28 lbs.

Calculation of Required TSS Load Reduction:

Load reduction, Lr = 0.80 x (Ld – Le)

Lr = 13977.98 lbs.

BMP Sizing Calculations

Table 3.4 BMP Removal Efficiency of TSS:

BMP	TSS Reduction (%)
Retention / Irrigation	100
Extended Detention Basin	75
Grassy Swale	70
Vegetated Filter Strips	85
Sand Filter	89
Wet Basin	93
Constructed Wetland	93

Based upon a selected BMP, the required pond volume is determined as follows:

$$Flc = \frac{Lr}{Ld \times BMPre \times Fst}$$

where:
Flc = Fraction of the load captured by the BMP
Lr = Required TSS load reduction to achieve 80%
BMPre = BMP removal efficiency from Table 3.4 (above)
Fst = Fraction of the site treated
where: Fst = (A – Bypass)/ A
Abp = Contributing drainage area to the BMP plus any IC bypass, acres
IC bypass = IC area of the site not draining to the BMP

BMPre = 89
Abp = 22.642 acres
IC bypass = 0.752 acres

BMP Name = **Sand Filter**

Fst = 0.97

Flc = 0.912

Required BMP Capture Volume to Achieve 80% Removal Efficiency:

Capture Volume = A x Rd x 1.2

where:
Rd = Runoff depth from Table 3.3, inches
1.2 = Represents an increase in volume by 20%**

** Capture volume shall be increased by 20% to accommodate reductions in available storage volume due to deposition of solids between full–scale maintenance activities.

Rd = 1.18 inches

Capture Volume = 116,382 cubic feet of volume in pond
(19,397 = the increase in volume for deposition of solids)

Minimum Surface Area for the Filtration Basin

$$Af = \frac{WQV(L)}{k(h+L)t}$$

where:
Af = Minimum surface area for the filtration basin (square feet)
WQV = Water Quality Volume (cubic feet)
L = Thickness of sand bed (1.5 feet)
h = Average height of water above sand bed (feet)
t = Basin draw down time (2 days)
k = permeability of sand (3.5 ft/d for full sedimentation, 2 ft/d for partial sedimentation)

WQV = 116,382 cubic feet

h = 2.75 inches

Af = 10,269 square feet

Volume Provided = 184,951 cubic feet

Sand Area Provided = 26,963 square feet

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

1. Written construction notification should be provided to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information should include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No temporary aboveground hydrocarbon and hazardous substance storage tank system may be installed within 150 feet if a domestic, industrial, irrigation, or public water supply well.

4. Prior to commencing construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. Controls specified in the SWPPP section of the approved Edwards Aquifer Contributing Zone Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

5. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

6. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 %. A permanent stake must be provided that can indicate when the sediment occupies 50 % of the basin volume.

7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. All spoils (excavated material) generated from the project site and stored on-site must have proper E&S controls installed.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

10. The following records should be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

11. The holder of any approved Contributing Zone plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

1. any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved;

C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

D. any development of land previously identified in a contributing zone plan as undeveloped.

Austin Regional Office 1921 Cedar Bend, Suite 150 Austin, Texas 78758-5336 Phone (512) 339-2929 Fax (512) 339-3795 San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

"RECEIVED TCEQ"
SAN ANTONIO
REGION

2005 AUG 11 PM 3:4

RECEIVED
AUG 18 2005
COUNTY ENGINEER

Comal
County

Revised
Dwgs

Date: Aug 10, 2005, 2:10pm User ID: tvicuna
File: G:\048\53\04853WQP02–NORTH.dwg

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525–9090 Fax (210)525–0529

COY D. ARMSTRONG
87617
8/10/05

THE HOME DEPOT
BULVERDE, TEXAS

NORTH WATER QUALITY POND CALCULATIONS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 06/27/05
FILE: G:\48\54\EXHIBITS\CC.DWG
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–53.00

SHEET
C-5.3

Texas Commission on Enviormental Quality

TSS Removal Calculations

Project: ***Home Depot Bulverde, TX (TX-413b)***
Date Prepared: 02/22/2005

Existing Load Calculations (Baseline):

Annual Load, $Le = A \times P \times Rv \times C \times 0.226$

where:
Le = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (32 for Travis and Williamson County)
Rv = Runoff coefficient for the fraction of impervious cover
$Rv = 0.546(IC)2 + 0.328(IC) + 0.030$
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (80 mg/l for undeveloped land)
0.226 = Units conversion factor

Existing Site Data:

A = 17.96 acres
P = 33 inches
IC = 0 %
C = 80 mg/l

Rv = 0.030

Le = 321.47 lbs.

Post Development Load Calculations:

Annual Load, $Ld = A \times P \times Rv \times C \times 0.226$

where:
Ld = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (30 for Bexar County)
Rv = Runoff coefficient for the fraction of impervious cover
$Rv = 0.546(IC)^2 + 0.328(IC) + 0.030$
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (170 mg/l for developed land)
0.226 = Units conversion factor

Developed Site Data:

A = 9.86 acres
P = 33 inches
IC = 80 %
C = 170 mg/l

Rv = 0.642

Ld = 8023.71 lbs.

Calculation of Required TSS Load Reduction:

Load reduction, $Lr = 0.80 \times (Ld - Le)$

Lr = 6161.79 lbs.

BMP Sizing Calculations

Table 3.4 BMP Removal Efficiency of TSS:

BMP	TSS Reduction (%)
Retention / Irrigation	100
Extended Detention Basin	75
Grassy Swale	70
Vegetated Filter Strips	85
Sand Filter	89
Wet Basin	93
Constructed Wetland	93

Based upon a selected BMP, the required pond volume is determined as follows:

$$Flc = \frac{Lr}{Ld \times BMPre \times Fst}$$

where:
Flc = Fraction of the load captured by the BMP
Lr = Required TSS load reduction to achieve 80%
BMPre = BMP removal efficiency from Table 3.4 (above)
Fst = Fraction of the site treated
where: $Fst = (A - Bypass)/ A$
Abp = Contributing drainage area to the BMP plus any IC bypass, acres
IC bypass = IC area of the site not draining to the BMP

BMPre = 89
Abp = 10.315 acres
IC bypass = 0.455 acres

BMP Name = **Sand Filter**

Fst = 0.96

Flc = 0.903

Required BMP Capture Volume to Achieve 80% Removal Efficiency:

Capture Volume $= A \times Rd \times 1.2$

where:
Rd = Runoff depth from Table 3.3, inches
1.2 = Represents an increase in volume by 20%**

** Capture volume shall be increased by 20% to accommodate reductions in available storage volume due to deposition of solids between full-scale maintenance activities.

Rd = 1.18 inches

Capture Volume = 53,020 cubic feet of volume in pond
(8,837 = the increase in volume for deposition of solids)

Minimum Surface Area for the Filtration Basin

$$Af = \frac{WQV(L)}{k(h+L)t}$$

where:
Af = Minimum surface area for the filtration basin (square feet)
WQV = Water Quality Volume (cubic feet)
L = Thickness of sand bed (1.5 feet)
h = Average height of water above sand bed (feet)
t = Basin draw down time (2 days)
k = permeability of sand (3.5 ft/d for full sedimentation, 2 ft/d for partial sedimentation)

WQV = 53,020 cubic feet

h = 2.75 inches

Af = 4,678 square feet

Volume Provided = 67,548 cubic feet

Sand Area Provided = 7,027 square feet

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

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B. any change in the nature or character of the regulated activity from that which was originally approved;

C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

D. any development of land previously identified in a contributing zone plan as undeveloped.

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THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

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10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617
8/10/05

THE HOME DEPOT
BULVERDE, TEXAS

SOUTH WATER QUALITY POND CALCULATIONS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 06/27/05
FILE: G:\48\54\EXHIBITS\CC.DWG
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-53.00

SHEET
C-5.5

Bury+Partners
ENGINEERING SOLUTIONS

"RECEIVED TCEQ"
SAN ANTONIO
REGION

2005 AUG -8 PM 3:55

August 8, 2005

RECEIVED
SEP 19 2005
COUNTY ENGINEER

Ms. Lynn Bumguardner
Texas Commission on Environmental Quality
14250 Judson Road
San Antonio, Texas 78233

Re: Home Depot Bulverde
Contributing Zone Plan (CZP)
Edwards Aquifer Protection Program File No. 2338.00

Dear Ms. Bumguardner:

This letter is in response to the faxed memo dated August 5, 2005. Each response below corresponds to the same numbered comment on the fax sent August 5th.

1. A drawing showing the site limits has been included for clarification. The letter from Comal County was issued for the current lots. An actual permit for septic usage will not be issued until the site is platted into the proposed lot configuration shown in the construction drawings.

2. See response #1 above.

3. A revised Proposed Drainage Area Map has been included for clarification.

4. Drainage areas B, D, E and G are shown schematically and represent future development. These areas were accounted for using the drainage areas indicated at a developed C-Value of 0.91.

5. In addition to the construction associated with this CZP, there is construction to be done on the other side of Old Boerne Road for which a modification to the HEB – Bulverde CZP has been submitted. An Authorized Agent form has been completed by HEB and was submitted with the modification.

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10000 San Pedro Avenue, Suite 100
San Antonio, Texas 78216

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6. Portions of the 53-acre tract were not included in the calculations and are omitted on the Proposed Drainage Area Map. In particular, the areas omitted are the remaining portions of the lots indicated by drainage areas D and E. Due to the existing topography of these lots, it would be difficult for the entire area to be developed and have the storm water conveyed to the proposed basins. Therefore, an area has been assumed and is indicated on the Proposed Drainage Area Map that could reasonably be developed to drain to the proposed basins. There are also two portions of the proposed road at the north and south low ends of the site that are below the basin elevations and cannot be drained into the basins (drainage areas F3 and F4). This has been accounted for in the calculations as the bypass area. The calculations take the bypass area into account by over sizing the basins.

7. The reference to 12 inches has been removed from both sheets. Both sheets now state that 18 inches of sand must be used.

8. The shut off valve location has been indicated on the revised plan sheet.

9. Neither pond will have an impermeable liner as it is not required in the Contributing Zone. The north pond details have been updated to reflect this change.

Thank you for your time and consideration of this matter. If you should have any questions, please contact me or Coy D. Armstrong, P.E., at 210/525-9090.

Sincerely,

Dawn M. Mills

Dawn M. Mills, P.E.
Project Engineer

Attachments

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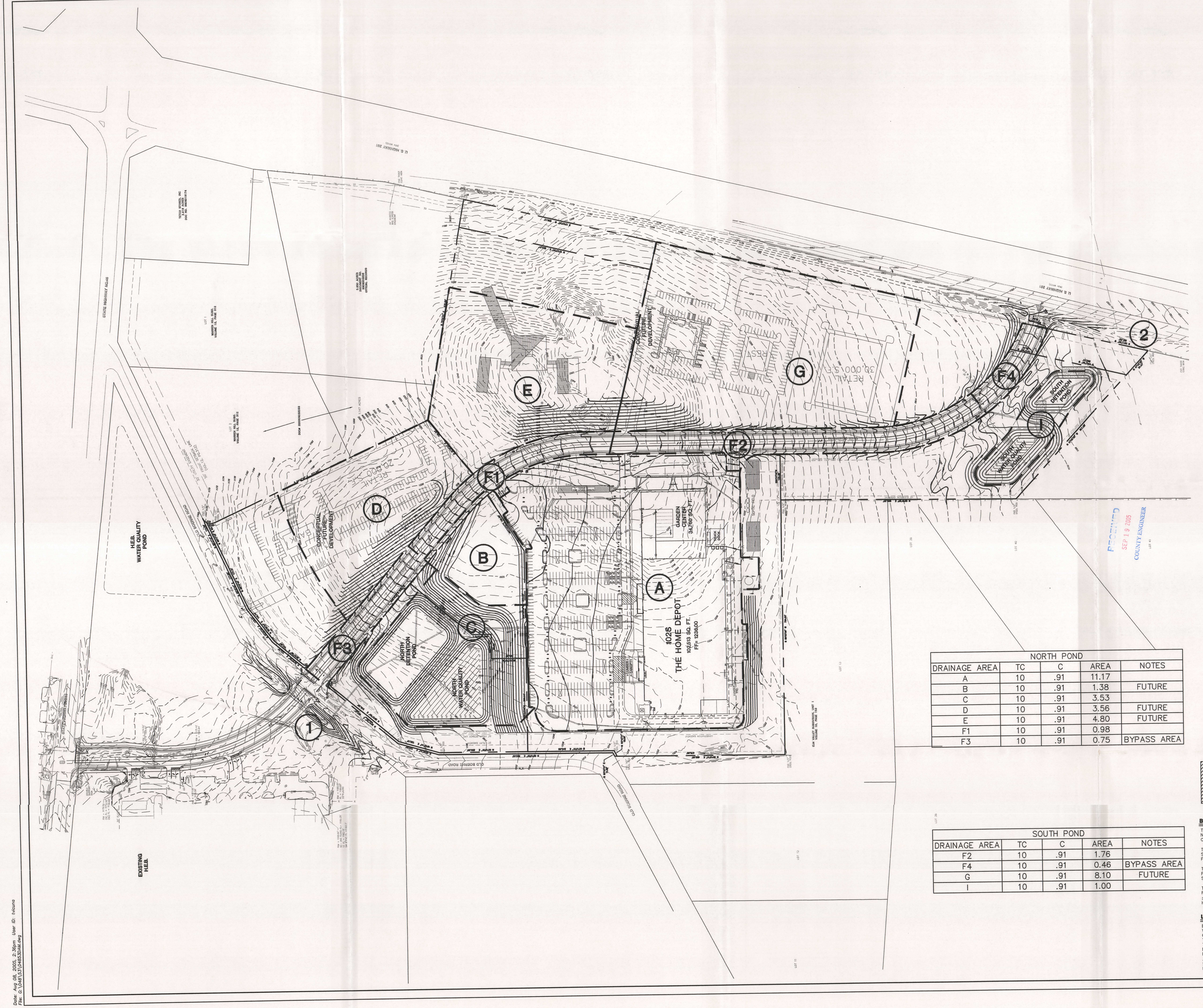

NORTH POND				
DRAINAGE AREA	TC	C	AREA	NOTES
A	10	.91	11.17	
B	10	.91	1.38	FUTURE
C	10	.91	3.53	
D	10	.91	3.56	FUTURE
E	10	.91	4.80	FUTURE
F1	10	.91	0.98	
F3	10	.91	0.75	BYPASS AREA

SOUTH POND				
DRAINAGE AREA	TC	C	AREA	NOTES
F2	10	.91	1.76	
F4	10	.91	0.46	BYPASS AREA
G	10	.91	8.10	FUTURE
I	10	.91	1.00	

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
◕		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
Ø	Ø	POWER POLE
⚓	⚓	DOWN GUY
		FIRE HYDRANT
⊘	◑	WATER VALVE
◪	◪	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
─//─//─	─//─//─	WOOD FENCE
─o─	─o─	CHAIN LINK FENCE
─×─×─	─×─×─	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO ○	CO ●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
⊥	⊥	SIGN
─	━	VARIABLE HEIGHT CONCRETE RETAINING WALL
⊠	⊠	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
△T	△T	TELEPHONE SERVICE BOX
○	●	BOLLARD
— OHE —	— OHE —	OVER HEAD ELEC. LINE
— OHT —	— OHT —	OVER HEAD TELEPHONE
— SS —	SS	STORM SEWER LINE
— W —	— W —	WATER LINE
— FW8" —	— FW —	FIRE WATER LINE
— DW4" —	— DW —	DOMESTIC WATER LINE
	— LW —	LANDSCAPE WATER LINE
— WW —	— WW —	WASTEWATER LINE
— UE —	— UE —	UNDERGROUND ELECTRIC
— UT —	— UT —	UNDERGROUND TELEPHONE
— G —	— G —	GAS LINE
- - -		PROPERTY LINE
— 678 —	— 678 —	CONTOUR
+704	+704	SPOT ELEVATION
→	→	FLOW DIRECTION
▒	▒	CONCRETE SURFACE
▨	▨	LIMITS OF CONSTRUCTION
○ 1170		ON SITE TREE TO REMAIN
◌ 1170		TREE TO BE REMOVED

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

LEGAL DESCRIPTION:

BEING A 29.069 ACRE TRACT OF LAND SITUATED IN THE PHILLIP WAGNER SURVEY NO. 573, ABSTRACT NO. 673 AND THE CARL GEORG SURVEY NO. 432, ABSTRACT NO. 190, COMAL COUNTY, TEXAS, BEING PORTIONS OF THE FOLLOWING TRACTS OF LAND: THAT CERTAIN REMAINING PORTION OF 78.104 ACRES OF LAND AS DESCRIBED IN DOCUMENT NO. 9706003738 OF THE OFFICIAL RECORDS OF COMAL COUNTY, TEXAS; A PORTION OF LOT 3 AND ALL OF LOTS 4–6 (INCLUSIVE), WARREN HILL SUBDIVISION, A SUBDIVISION OF RECORD IN VOLUME 12, PAGE 312 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
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Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617

Coy D. Armstrong
8/8/05

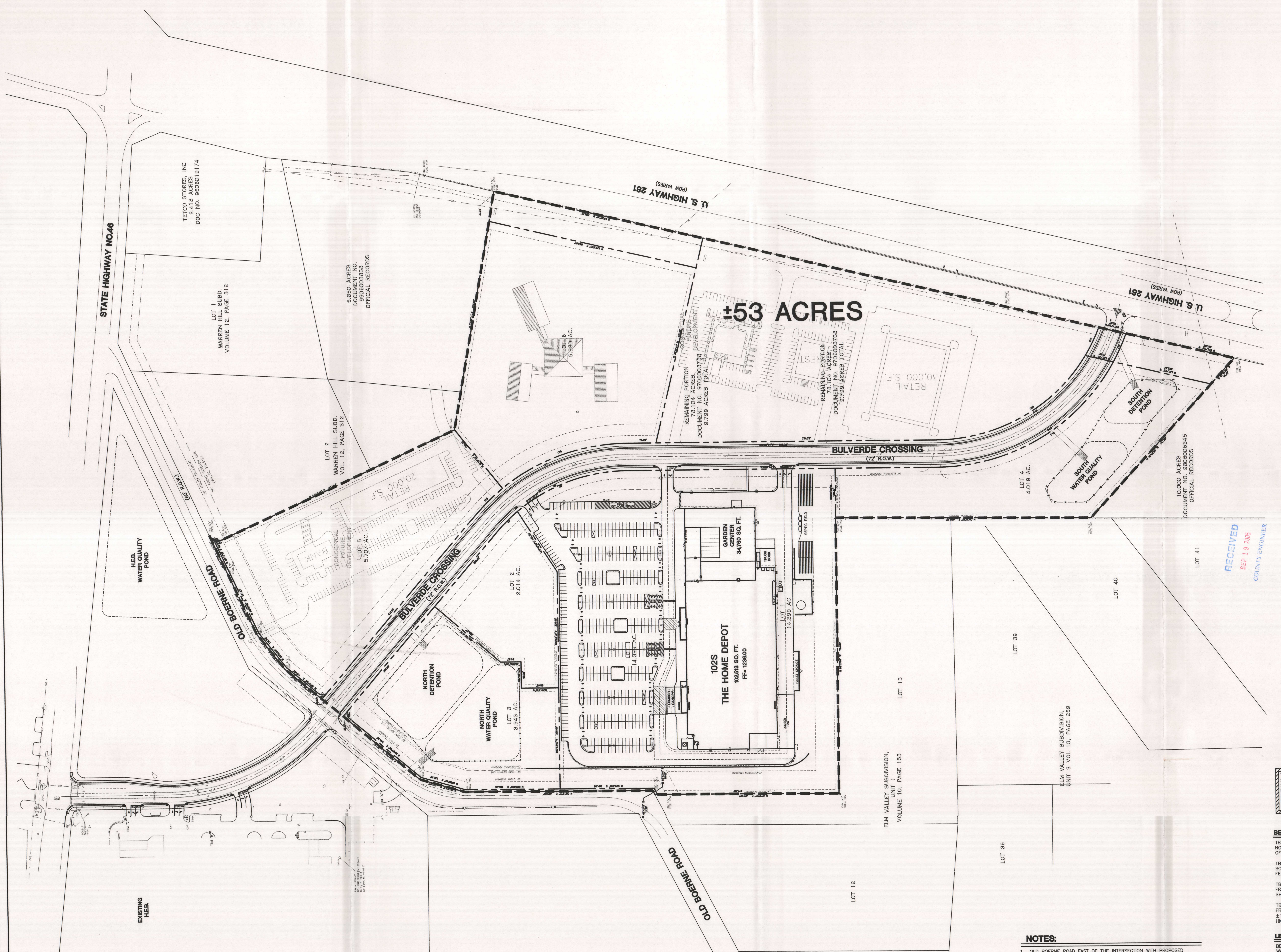
THE HOME DEPOT
BULVERDE, TEXAS

PROPOSED OVERALL DRAINAGE AREA MAP

PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\4\05
FILE: G:\048\53\04853DAM.dwg
DRAWN BY: CJG
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–53.00

SHEET
EX-1

Date: Aug 08, 2005, 2:36pm User ID: tvicuna
File: G:\048\53\04853DAM.dwg



RECEIVED
SEP 19 2005
COUNTY ENGINEER

2005 AUG -8 PM 4:00
"RECEIVED TCEQ"
SAN ANTONIO
REGION

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
⊕		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
∅	∅	POWER POLE
⊥	⊥	DOWN GUY
⊼	⊼	FIRE HYDRANT
⊘	◐	WATER VALVE
⊠	◪	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
—//—//—	—//—//—	WOOD FENCE
—o—	—o—	CHAIN LINK FENCE
—×—×—	—×—×—	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO°	CO●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
⍊	⍊	SIGN
— —	— —	VARIABLE HEIGHT CONCRETE RETAINING WALL
⊠	⧗	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
△T	△T	TELEPHONE SERVICE BOX
○	•	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	SS	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— — WW—	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
⟿	⟿	FLOW DIRECTION
▨	▨	CONCRETE SURFACE
	▨ ▨ ▨	LIMITS OF CONSTRUCTION
○ +1170		ON SITE TREE TO REMAIN
◌ +1170		TREE TO BE REMOVED

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTES:

1. OLD BOERNE ROAD EAST OF THE INTERSECTION WITH PROPOSED BULVERDE CROSSING SHALL BE IMPROVED TO REBUILD SURFACE FAILURES (POTHOLES) FOLLOWED BY HOT MIX ASPHALTIC CONCRETE PAVEMENT NOT LESS THAN ONE AND ONE-HALF (1 ½) INCHES THICK FOR SURFACE COURSE (TYPE D) AND TWO (2) INCHES THICK FOR LEVELING-UP COURSE (TYPE B). DRAINAGE COURSES ALONG BOTH SIDES OF OLD BOERNE ROAD SHALL BE CLEARED OF DEBRIS FOR IMPROVED DRAINAGE FLOW.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

LEGAL DESCRIPTION:

BEING A 29.069 ACRE TRACT OF LAND SITUATED IN THE PHILLIP WAGNER SURVEY NO. 573, ABSTRACT NO. 673 AND THE CARL GEORG SURVEY NO. 432, ABSTRACT NO. 190, COMAL COUNTY, TEXAS, BEING PORTIONS OF THE FOLLOWING TRACTS OF LAND: THAT CERTAIN REMAINING PORTION OF 78.104 ACRES OF LAND AS DESCRIBED IN DOCUMENT NO. 9706003738 OF THE OFFICIAL RECORDS OF COMAL COUNTY, TEXAS; A PORTION OF LOT 3 AND ALL OF LOTS 4–6 (INCLUSIVE), WARREN HILL SUBDIVISION, A SUBDIVISION OF RECORD IN VOLUME 12, PAGE 312 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617

Coy D. Armstrong
8/8/05

THE HOME DEPOT
BULVERDE, TEXAS

THE HOME DEPOT

OVERALL SITE LIMITS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 08/04/05
FILE: G:\048\53\EXHIBITS\MSPN.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–53.00

SHEET
EX-4

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 16, 2005

Mr. Jacob R. Pritcher, Jr.
Home Depot U.S.A., Inc.
2800 Forest Lane
Dallas, TX 75234

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Bulverde Home Depot; Located near the south west corner of the intersection of SH 46 and US Hwy 281; Bulverde, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 2338.00
Regulated Entity No.: RN104608955
Investigation No.: 400265

Dear Mr. Pritcher:

The Contributing Zone Plan application for the referenced project was submitted to the San Antonio Regional Office by Coy D. Armstrong, P.E. of Bury & Partners - SA, Inc. on behalf of Home Depot U.S.A., Inc. on April 25, 2005. Final review of the CZP was completed after additional material was received on July 7, 2005, August 8, 2005, August 11, 2005, and August 16, 2005. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Contributing Zone Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10% of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will be located on 53 acres and will consist of the construction of a Home Depot store, parking, driveways, utilities, a public road, and 17.84 acres of unidentified future commercial development. The proposed impervious cover for the development is approximately 26.61 acres (50.2 % of the total area of the site). According to a letter dated, April 14, 2005, signed by Thomas H. Hornseth, P.E., with Comal County, a portion of the site in the development is acceptable for the use of on-site sewage facilities.

REPLY TO: REGION 13 • 14250 JUDSON RD. • SAN ANTONIO, TEXAS 78233-4480 • 210/490-3096 • FAX 210/545-4329

P.O. Box 13087 • Austin, Texas 78711-3087 • 512/239-1000 • Internet address: www.tceq.state.tx.us

Mr. Jacob R. Pritcher, Jr.
Page 2
August 16, 2005

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site and potentially flowing across and off the site after construction, two partial sedimentation filtration basins designed using the TNRCC technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (June 1999) will be constructed. The following table summarizes the permanent treatment for the site.

Treatment basin	Total Area (acres)	Imp. Cover (acres)	% IC	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Actual Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Actual Filter Area (ft^2)	Target TSS Removal (lb/yr)	Actual Estimated TSS Removal (lb/yr)
North	21.89	17.51	80	1.18	116,382	184,951	10,269	26,963	13,977.98	19,798.66
South	9.86	7.89	80	1.18	53,020	67,548	4,678	7,027	6,161.79	8,642.15
North Untreated	12.92	0.75	5.8	-	-	-	-	-	481.50	-
South Untreated	8.33	0.46	5.5	-	-	-	-	-	300.57	-
Total	53.00	26.61	50.2	-	-	-	-	-	20,921.84	28,440.81*

*Treatment of more than 80% of the total load generated will be treated.

The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

SPECIAL CONDITIONS

I. All sedimentation/filtration basins shall be operational prior to occupancy or use of any of the facilities within their respective drainage areas.

II. All sediment and or media removed from the sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

III. Intentional discharges of sediment laden stormwater are not allowed. If dewatering becomes necessary, a plan for removing at least 80% of the sediment load from the discharge must be submitted to the San Antonio Regional Office prior to initiating any discharges. The plan must propose how the discharge will be filtered through appropriately selected best management practices. These include vegetative filter strips, sediment traps, rock berms, silt fence rings, filters, etc.

IV. Since the future development is conceptual and lay out and grading plans are not available for development activities in Drainage Areas B, D, E, and G, modifications to the CZ plan will be required for future construction activities within these drainage areas.

V. A copy of the on site sewage facility permit for each on site sewage facility system that will be installed on the 53 acre site must be provided within 30 days of the permit being issued.

VI. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TNRCC-0625) that you may use to record the approval is enclosed.

VII. Treated and discharged stormwater from the north water quality treatment basin and the north detention pond must not be directed to the off-site H.E.B. water quality basin.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

"RECEIVED TCEQ"
SAN ANTONIO
REGION

2005 APR 25 PM 3:36

CONTRIBUTING ZONE PLAN

RECEIVED
APR 29 2005
COUNTY ENGINEER

FOR

HOME DEPOT

SH 46 and Highway 281
Bulverde, Texas

Prepared for:

Home Depot U.S.A., Inc.
2800 Forest Lane
Dallas, Texas 75234

April 2005

Bury+Partners
ENGINEERING SOLUTIONS

"RECEIVED TCEQ"
SAN ANTONIO
REGION

2005 APR 25 PM 3:37

CONTRIBUTING ZONE PLAN

FOR

HOME DEPOT

SH 46 and Highway 281
Bulverde, Texas

Prepared for:

Home Depot U.S.A., Inc.
2800 Forest Lane
Dallas, Texas 75234

April 2005

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Bury+Partners
ENGINEERING SOLUTIONS

April 21, 2005

Mr. John Mauser
Texas Commission on Environmental Quality
Region #13
14250 Judson Road
San Antonio, Texas 78233

Re: Home Depot - Bulverde, Texas
Contributing Zone Plan

Dear Mr. Mauser:

Please find attached four (4) copies (one original and three copies) of the Home Depot - Bulverde, Texas Contributing Zone Plan. This plan has been prepared to be consistent with the Texas Commission on Environmental Quality (30 TAC 213) and current policies for development over the Edwards Aquifer Contributing Zone.

This Contributing Zone Plan applies to a 36 acre site identified as the limits of the project. Please review the plan information for the items it is intended to address, and if acceptable provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($250) and fee application are included. If you have any questions regarding this information, please call our office at 210/525-9090.

Sincerely,

Dawn M. Mills, E.I.T.

Coy D. Armstrong, P.E.
Project Manager

COY D. ARMSTRONG
87617

I:\Contributing Zones\Home Depot\048-053\April 2005\042105 Mauser.doc.hs

10000 San Pedro Avenue
Suite 100
San Antonio, Texas 78216

(210) 525-9090 telephone
(210) 525-0529 fax

BURY+PARTNERS-SA, INC.
Consulting Engineers and Surveyors
Austin Dallas Houston San Antonio Washington, D.C.

EXECUTIVE SUMMARY

The proposed improvements addressed by this CZP are for an approximate 36 acre tract for a Home Depot and additional commercial use not identified at this time.

PROJECT DESCRIPTION

The proposed development will consist of a ± 102,500 S.F. Home Depot store and other commercial development. The project is located within the limits of the City of Bulverde. Potable water will be supplied by the City of Bulverde.

Approximately 1000 gallons per day (average) of domestic wastewater is estimated to be generated by Home Depot. It will be disposed of by a septic tank with a re-irrigation system.

The proposed development will consist of approximately 90% of impervious cover, which includes rooftops, parking lots, driveways and sidewalks. One (1) water quality pond is proposed to capture and treat runoff from the site and any additional runoff will bypass the pond and outfall into a downstream detention pond.

CONTRIBUTING ZONE PLAN APPLICATION

Contributing Zone Plan Application

for Regulated Activities
on the Contributing Zone to the Edwards Aquifer
and Relating to 30 TAC §213.24(1), Effective June 1, 1999

Regulated Entity Name: The Home Depot – Bulverde, TX
County: Comal Stream Basin: Cibolo Creek

1. X Regulated activities on this site will disturb at least 5 acres.
   N/A Regulated activities on this site will disturb less than 5 acres and are part of a larger common plan of development or sale with the potential to disturb cumulatively five or more acres.

2. Customer (Applicant):

Contact Person: Jacob R. Pritcher, Jr.
Entity: Home Depot U.S.A., Inc.
Mailing Address: 2800 Forest Lane
City, State: Dallas, Texas Zip: 75234
Telephone: (972) 402-3800 FAX:

Agent/Representative (If any):

Contact Person: Coy D. Armstrong, P.E.
Title: Project Manager
Entity: Bury+Partners-SA, Inc.
Mailing Address: 10000 San Pedro, STE 100
City, State: San Antonio, Texas Zip: 78216
Telephone: 210/525-9090 FAX: 210/525-0529

3. X This project is inside the city limits of Bulverde.
   N/A This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of ______________.
   N/A This project is not located within any city's limits or ETJ.

4. The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

   SWQ- SH 46 & HWY 281, Bulverde, TX

5. X **ATTACHMENT A - Road Map.** A road map showing directions to and the location of the project site is found as at the end of this form.

6. X **ATTACHMENT B - USGS Quadrangle Map.** A copy of the USGS Quadrangle Map (Scale: 1" = 24,000') is found at the end of this form. The map(s) clearly shows:
   X Project site boundaries.
   X USGS Quadrangle Name(s).

7. X **ATTACHMENT C - Project Narrative.** A detailed narrative description of the proposed project is found at the end of this form.

8. Existing project site conditions are noted below:
__ Existing commercial site
__ Existing industrial site
__ Existing residential site
__ Existing paved and/or unpaved roads
__ Undeveloped (Cleared)
X Undeveloped (Undisturbed/Uncleared)
__ Other:

PROJECT INFORMATION

9. The type of project is:
__ Residential: # of Lots: ________
__ Residential: # of Living Unit Equivalents: ____________
X Commercial
__ Industrial
__ Other: _______________

10. Total project area (size of site): 36 Acres
Total disturbed area: 36 Acres

11. Projected population: N/A

12. The amount and type of impervious cover expected after construction is complete is shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops		÷ 43,560 =	
Parking		÷ 43,560 =	
Other paved surfaces		÷ 43,560 =	
Total Impervious Cover		÷ 43,560 =	
Total Impervious Cover ÷ Total Acreage x 100 =			90%

13. X **ATTACHMENT D - Factors Affecting Surface Water Quality.** A description of factors that could affect surface water quality is found as at the end of this form. If applicable, this should included the location and description of any discharge associated with industrial activity other than construction.

14. X Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY
Complete questions 15-20 if this application is exclusively for a road project.

15. Type of project:
__ TXDOT road project.
__ County road or roads built to county specifications.
__ City thoroughfare or roads to be dedicated to a municipality.
__ Street or road providing access to private driveways.

16. Type of pavement or road surface to be used:

__ Concrete
__ Asphaltic concrete pavement
__ Other: ____________________

17. Length of Right of Way (R.O.W.): ______ feet.
Width of R.O.W.: ______ feet.
L x W = ______ $Ft^2 \div 43{,}560\ Ft^2/Acre$ = ______ acres.

18. Length of pavement area: ______ feet.
Width of pavement area: ______ feet.
L x W = ______ $Ft^2 \div 43{,}560\ Ft^2/Acre$ = ______ acres.
Pavement area ______ acres ÷ R.O.W. area ______ acres x 100 = ___% impervious cover.

19. __ A rest stop will be included in this project.
__ A rest stop will **not** be included in this project.

20. __ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

21. X **ATTACHMENT E - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is found at the end of this form. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. The runoff coefficient of the site for both pre-construction and post-construction conditions is included.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

22. Wastewater will be disposed of by:

X On-Site Sewage Facility (OSSF/Septic Tank):
ATTACHMENT F - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's written approval is provided at the end of this form. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities, or it identifies those areas that are not suitable for the use of private sewage facilities. The system will be designed by a licensed professional engineer or a registered sanitarian and installed by a licensed installer in compliance with 30 TAC §285.

N/A Sewage Collection System (Sewer Lines):
Wastewater is to be disposed of by conveyance to the _______________ (name) treatment plant for treatment and disposal. The treatment facility is :
__ existing.
__ proposed.

N/A Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

FOR PERMANENT ABOVEGROUND STORAGE TANKS (ASTs) > 500 GALLONS
Complete questions 23-29 if this project includes the installation of AST(s) with volume(s) greater than 500 gallons.

23. Tanks and substance stored:

AST Number	Size (Gallons)	Substance to be Stored	Tank Material
1			
2			
3			
4			
5			
Total		x 1.5 =	gallons

24. N/A The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

N/A **ATTACHMENT G - Alternative Secondary Containment Methods.** Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are found at the end of this form.

25. Inside dimensions and capacity of containment structure(s):

Length (L) (Ft.)	Width (W) (Ft.)	Height (H) (Ft.)	L x W x H = (Ft^3)	Gallons
Total				

26. N/A All piping, hoses, and dispensers will be located inside the containment structure.

N/A Some of the piping to dispensers or equipment will extend outside the containment structure.

N/A The piping will be aboveground
N/A The piping will be underground

27. N/A The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of ______________________________.

28. **ATTACHMENT H - AST Containment Structure Drawings.** A scaled drawing of the containment structure is found at the end of this form that shows the following:

N/A Interior dimensions (length, width, depth and wall and floor thickness).
N/A Internal drainage to a point convenient for the collection of any spillage.
N/A Tanks clearly labeled
N/A Piping clearly labeled
N/A Dispenser clearly labeled

29. Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

N/A In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.
N/A In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

SITE PLAN

Items 30 through 41 must be included on the Site Plan.

30. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 60 '.

31. 100-year floodplain boundaries

N/A Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
X No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):

32. X The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
N/A The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

33. X A drainage plan showing all paths of drainage from the site to surface streams.

34. X The drainage patterns and approximate slopes anticipated after major grading activities.

35. X Areas of soil disturbance and areas which will not be disturbed.

36. X Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

37. X Locations where soil stabilization practices are expected to occur.

38. N/A Surface waters (including wetlands).

39. N/A Locations where stormwater discharges to surface water.
X There will be no discharges to surface water.

40. N/A Temporary aboveground storage tank facilities.
X Temporary aboveground storage tank facilities will not be located on this site.

41. N/A Permanent aboveground storage tank facilities.
X Permanent aboveground storage tank facilities will not be located on this site.

Permanent best management practices (BMPs) and measures that will be used during and after construction is completed.

42. X Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

43. X These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
N/A A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below

44. X Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

45. N/A Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

N/A This site will be used for low density single-family residential development and has 20% or less impervious cover.
N/A This site will be used for low density single-family residential development but has more than 20% impervious cover.
X This site will not be used for low density single-family residential development.

46. N/A The executive director may waive the requirement for other permanent BMPs for multi-

family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

N/A **ATTACHMENT I - 20% or Less Impervious Cover Waiver.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.

N/A This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

X This site will not be used for multi-family residential developments, schools, or small business sites.

47. **ATTACHMENT J - BMPs for Upgradient Stormwater.**

N/A A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is provided as **ATTACHMENT J** at the end of this form.

X If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT J** at the end of this form.

X If permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT J** at the end of this form.

48. **ATTACHMENT K - BMPs for On-site Stormwater.**

X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is provided as **ATTACHMENT K** at the end of this form.

N/A If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT K** at the end of this form.

49. N/A **ATTACHMENT L - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams is provided at the end of this form.

50. X **ATTACHMENT M - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ Construction Notes, all proposed structural measures, and appropriate details must be shown on the construction plans.

51. X **ATTACHMENT N - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by

the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

52. X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

N/A Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

N/A **ATTACHMENT O - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

53. N/A **ATTACHMENT P - Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is provided at the end of this form. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity which increase erosion that results in water quality degradation.

Responsibility for maintenance of permanent BMPs and measures after construction is complete.

54. X The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

55. X A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

ADMINISTRATIVE INFORMATION

56. X One (1) original and three (3) copies of the complete application has been provided.

57. X Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

58. X The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **CONTRIBUTING ZONE PLAN APPLICATION** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

COY D. ARMSTRONG, P.E.
Print Name of Customer/Agent

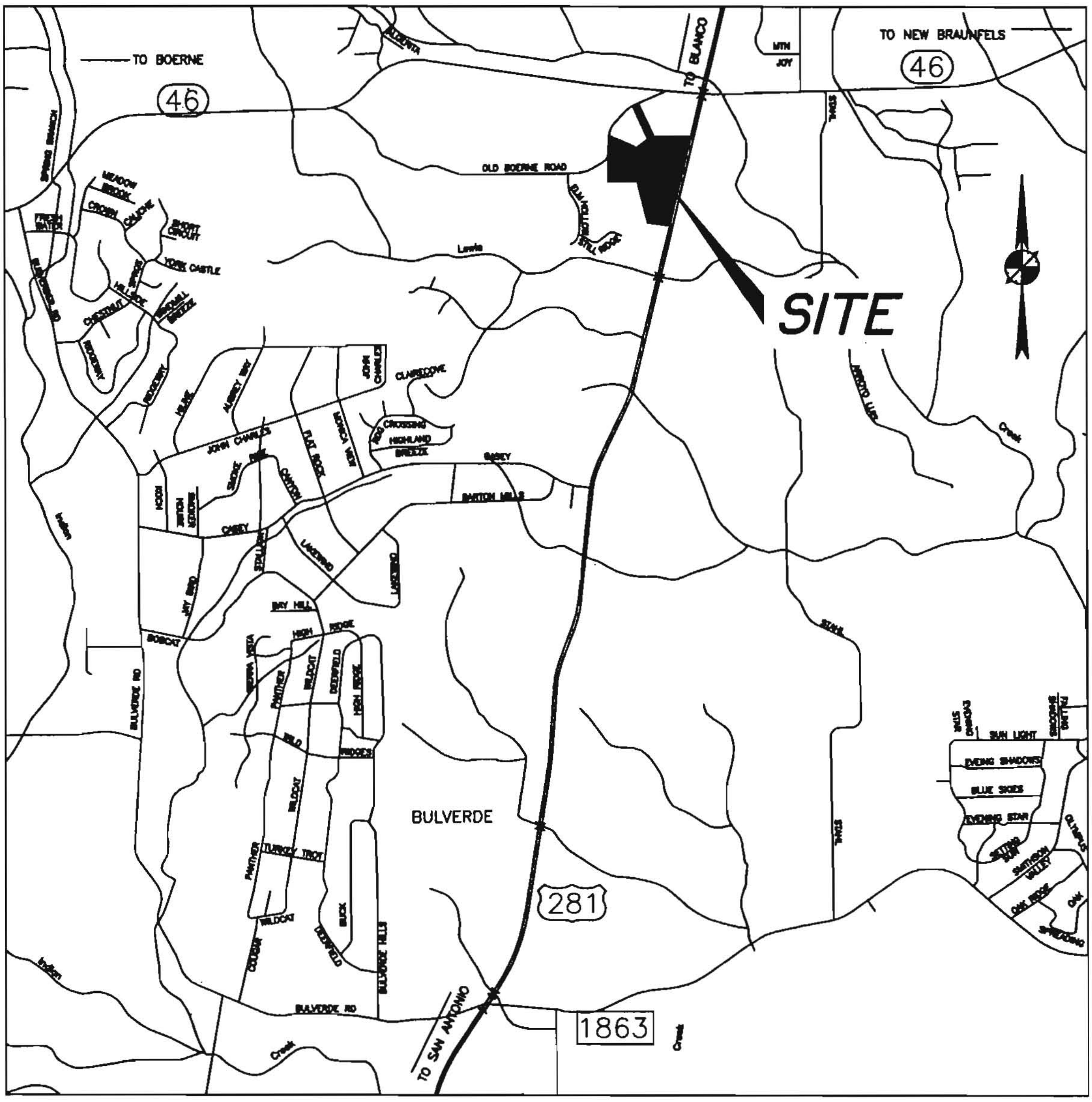
Signature of Customer/Agent

4/21/05
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

ATTACHMENT A

ROAD MAP



VICINITY MAP

N.T.S.

BULVERDE, TEXAS

SCALE:	NTS
DRAWN:	VEL
DATE:	11/19/04
SHEET	1 OF 1

HOME DEPOT

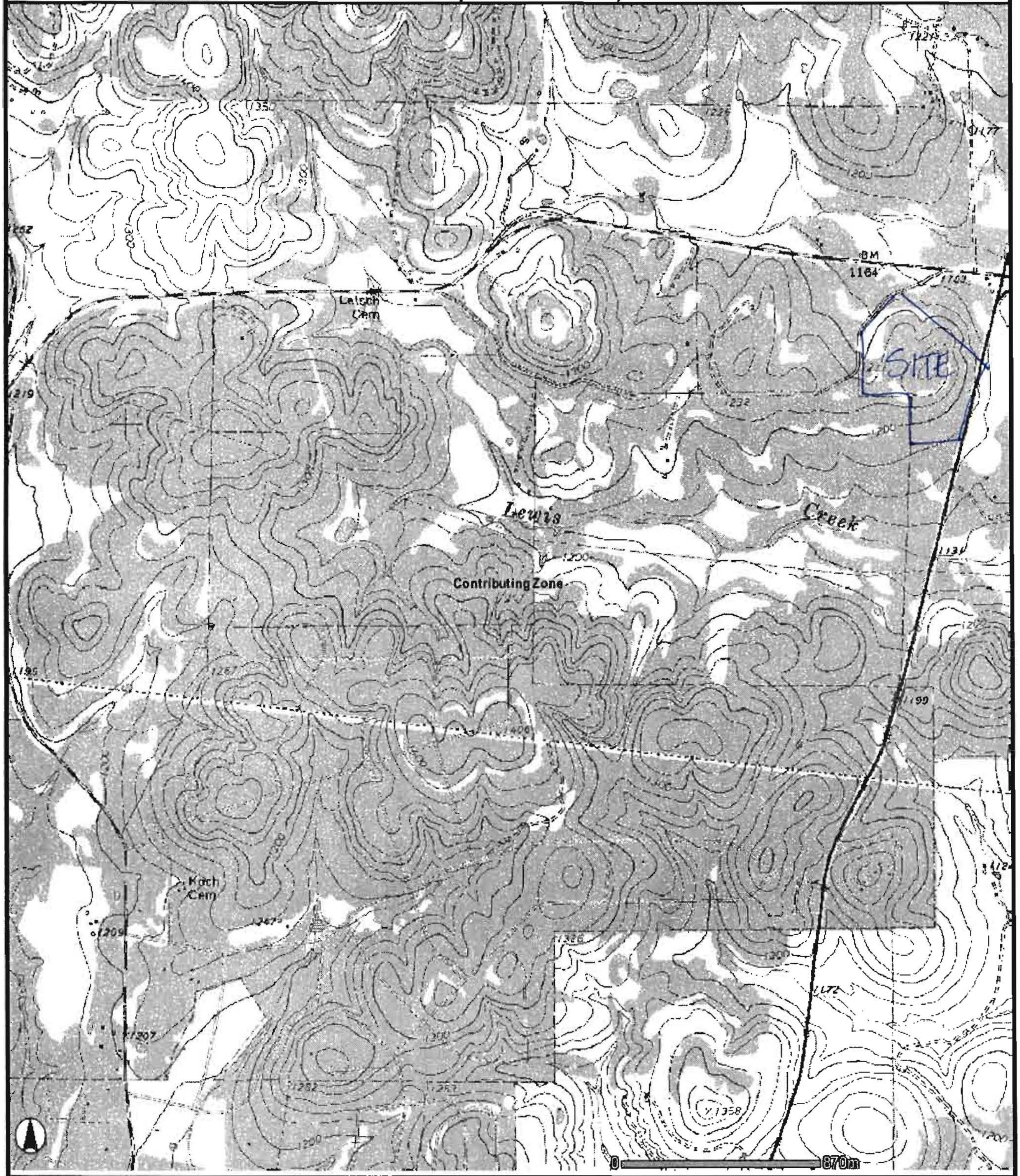
U.S. 281 @ S.H. 46
BULVERDE, TEXAS

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

ATTACHMENT B

USGS/EDWARDS AQUIFER RECHARGE ZONE MAP

Home Depot - Bulverde, TX



USGS Quad Map - 1:24,000

ATTACHMENT C

PROJECT NARRATIVE

PROJECT NARRATIVE

The proposed project will consist of a ± 102,500 S.F. Home Depot store and other commercial development on a 36 acre tract fronting Highway 281. The site will sheet flow to various inlets and conveyed via underground storm sewer to a proposed water quality pond. The water quality pond consists of sedimentation and sand filtration basins. Overflow will be directed to the adjacent detention pond.

Discharge of the water quality pond will be released into the right-of-way for Old Boerne Road.

ATTACHMENT D

FACTORS AFFECTING SURFACE WATER QUALITY

FACTORS AFFECTING WATER QUALITY

Potential Source: Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance when possible will be performed within the construction staging area or at a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures : Trash containers will be placed throughout the site to encourage proper trash disposal.

Potential Source: Construction debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

ATTACHMENT E

VOLUME & CHARACTER OF STORM WATER

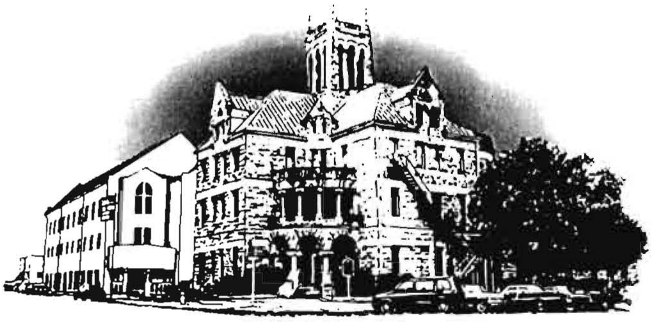
VOLUME AND CHARACTER OF STORM WATER

The proposed site will sheet flow to various inlets and conveyed via underground storm sewer to a proposed water quality pond, please refer to the grading plan that has been attached to this document. All areas are considered with a pervious C-value of 0.51 and an impervious C-value of 0.9 for a 100-year event.

The site will include 36 acres of land will be treated. Using a C-value of 0.51, the 100-year event flow is 215 cfs. For the developed land, using a C-value of 0.9 the 100-year flow is 378 cfs. Calculations for the water quality pond are shown on the Calculation and General Notes Sheet.

ATTACHMENT F

SUITABILITY LETTER FROM AUTHORIZED AGENT



Comal County
OFFICE OF COMAL COUNTY ENGINEER

April 14, 2005

Terrance and Kathleen Ciliske
c/o Bury + Partners, S.A., Inc.
10000 San Pedro, Ste. 100
San Antonio, TX 78216

Re: Proposed plat of the VACATE AND REPLAT OF LOTS 5 AND 6, WARREN HILL, WITH THE ADDITION OF THE REMAINING PORTION OF THAT CERTAIN 78.104 ACRE TRACT RECORDED IN DOCUMENT NO. 9706003738, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS, ESTABLISHING BULVERDE CROSSING, within Comal County, Texas

Dear Property Owner(s):

We have completed the review of the referenced for the recommendation for private sewage facilities and have found the proposed subdivision to be approved with the conditions that individual septic systems permits shall be required for the lots within this subdivision.

Please be advised that these individual permits will be required to meet 30 TAC 285, On-Site Sewage Facilities Rules of the Texas Natural Resource Conservation Commission.

Should you have any questions, please feel free to contact us.

Sincerely,

Thomas H. Hornseth, P.E.
Comal County Engineer

195 David Jonas Drive • New Braunfels, Texas 78130 • (830) 608-2090 FAX (830) 608-2009

ATTACHMENT G

ALTERNATIVE SECONDARY CONTAINMENT METHODS

NOT APPLICABLE

ALTERNATIVE SECONDARY CONTAINMENT METHODS

Alternative secondary containment is not required for this project. There are no proposed storage tanks with the exception of a possible water tank on site.

ATTACHMENT H

AST CONTAINMENT METHODS

NOT APPLICABLE

AST CONTAINMENT METHODS

AST containment methods are not required for this project. There are no proposed storage tanks, with the exception of a possible water tank on site.

ATTACHMENT I

20% OR LESS IMPERVIOUS COVER WAIVER

NOT APPLICABLE

20% OR LESS IMPERVIOUS COVER WAIVER

A 20% or Less Impervious Cover Waiver is not required for this project. The proposed site will be a commercial development.

ATTACHMENT J

BMP's FOR UPGRADIENT STORM WATER

NOT APPLICABLE

BMPs FOR UPGRADIENT STORM WATER

The site is adjacent to public Right-Of-Way along the north and east sides of the property and undeveloped property to the west and south. The site is higher than these adjacent roads.

In summary, upgradient storm water is not anticipated for this project.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

BMP's FOR ON-SITE STORM WATER

The best management practice implemented for this site will be a sand filter system. One (1) filtration basin will be constructed onsite to prevent pollution of surface groundwater. This basin will be earthen and will drain through a 8" PVC pipe into the detention pond. Basin details are shown on the Water Quality Pond Details sheet.

ATTACHMENT L

BMP's FOR SURFACE STREAMS

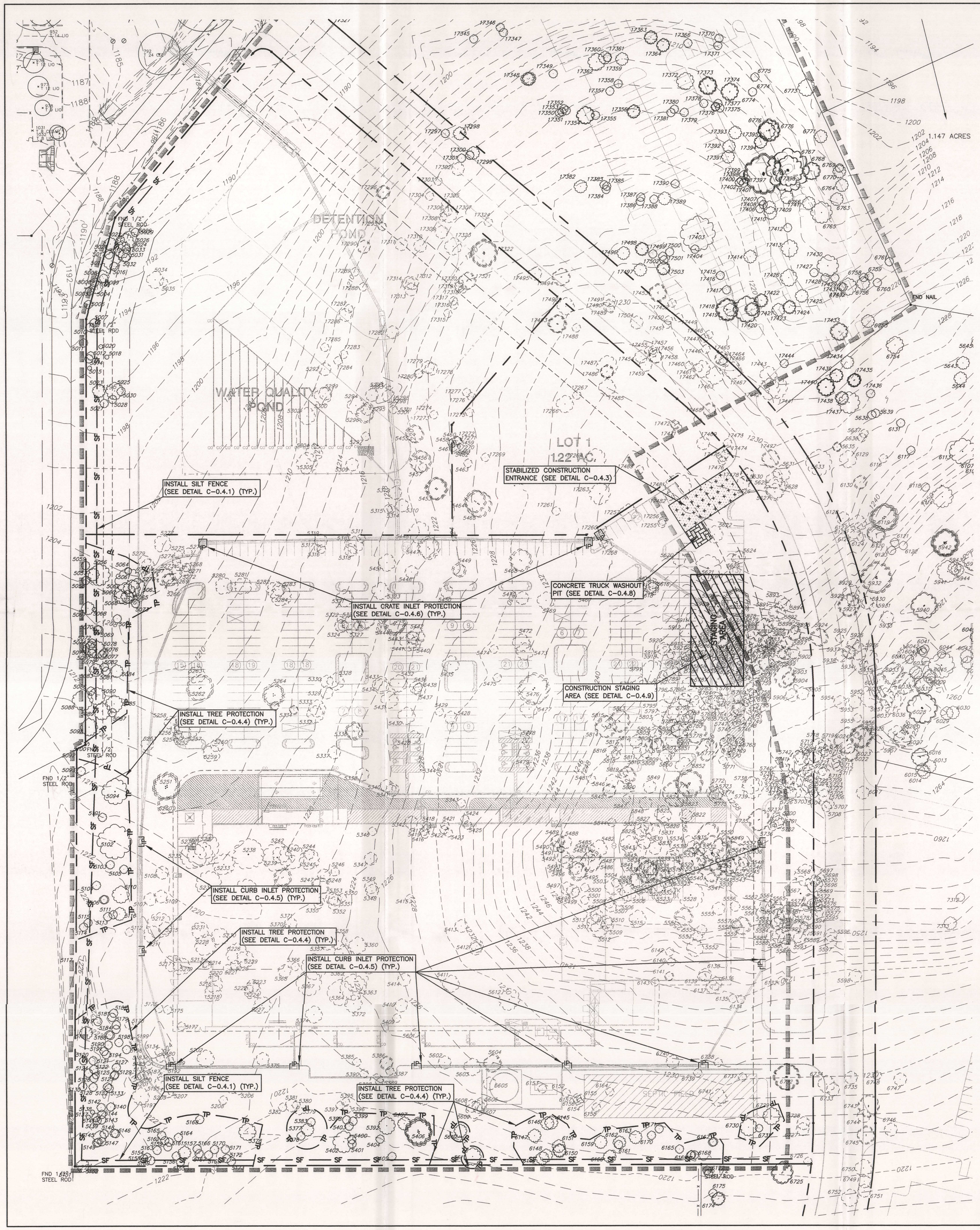
NOT APPLICABLE

BMP's FOR SURFACE STREAMS

The proposed site does not have any surface streams nor abuts any surface stream. Site runoff will be treated prior to release into the right-of-way.

ATTACHMENT M

CONSTRUCTION PLANS



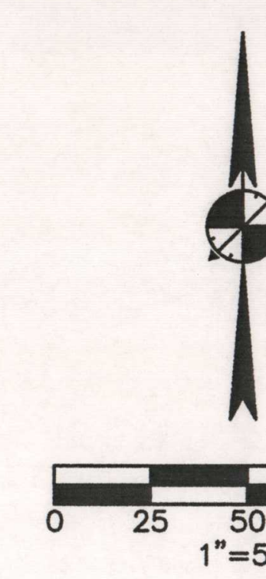
NOTES:

STORM WATER POLLUTION PREVENTION NOTES

1. PRIOR TO CONSTRUCTION, MAKE CERTAIN THE NOTICE OF INTENT (NOI) OR CONSTRUCTION SITE NOTICE (CSN) HAS BEEN FILED AND POSTED ONSITE FOR PUBLIC VIEWING AND THE TPDES REPORT AND SWPPP ARE AVAILABLE AT THE TRAILER.
2. INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, EXCAVATION).
3. THE PLACEMENT OF STORM WATER POLLUTION PREVENTION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION CONTROL PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR AND ENGINEER AFTER INSTALLATION OF THE STORM WATER POLLUTION PREVENTION CONTROLS AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE STORM WATER POLLUTION PREVENTION CONTROL PLAN MAY BE REQUIRED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT INTERVALS OF AT LEAST ONCE EVERY TWO (2) WEEKS AND IMMEDIATELY AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY.
8. WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
9. SOIL DISTURBANCES SHALL BE MINIMIZED BY EXPOSING ONLY THE SMALLEST PRACTICAL AREA OF LAND REQUIRED FOR THE CLEARING AND GRADING ACTIVITY AND FOR THE CONSTRUCTION ACTIVITY, FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
10. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND EXCEPT AS PROVIDED BELOW, WILL BE INITIATED NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
11. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
12. TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOILS HAVE COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE INTENDED PURPOSE.
13. MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
14. PERMANENT EROSION CONTROL:
    ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
    - (A) A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.
    - (B) THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS UNLESS SPECIFIED OTHERWISE BY THE PROJECT'S LANDSCAPE PLAN:

    BROADCAST SEEDING:
    I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
    II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
    - (C) FERTILIZER SHALL BE A PELLETED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15- 15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.
    - (D) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF.

    HYDRAULIC SEEDING:
    I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
    II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
    - (E) FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.
    - (F) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.
    - (G) THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. (COORDINATE WITH IRRIGATION PLAN)
    - (H) RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
    - (I) SEEDING SHALL APPLY TO ALL AREAS WITHIN DISTURBED PROJECT AREA NOT COVERED BY PAVEMENT, BUILDING PAD OR PROJECT LANDSCAPING PLANS.
    - (J) TWO SEEDINGS SHOULD OCCUR DURING PROJECT. FIRST SHOULD OCCUR WITHIN 14 DAYS AFTER PONDS ARE GRADED AND SECOND BY FINAL PUNCH LIST.
15. THE EPA GENERAL PERMIT REQUIRES THAT A TEMPORARY OR PERMANENT SEDIMENT BASIN BE INSTALLED IN ANY DRAINAGE LOCATION WHERE MORE THAN 10 ACRES IN THE UPSTREAM DRAINAGE ARE DISTURBED AT ONE TIME. THE SEDIMENT BASIN MUST PROVIDE AT LEAST 3,600 CUBIC FEET OF STORAGE FOR EVERY ACRE OF LAND, WHICH IT DRAINS.
16. CONTRACTOR TO COORDINATE CONSTRUCTION ACCESS TO SITE WITH TXDOT.



LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
◕		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
Ø	Ø	POWER POLE
⚓	⚓	DOWN GUY
⊤	⊤	FIRE HYDRANT
⊘	◐	WATER VALVE
⧄	◪	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
—//—//—	—//—//—	WOOD FENCE
—o—	—o—	CHAIN LINK FENCE
×—×	×—×	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO○	CO●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
⊥	⊥	SIGN
- -	— —	VARIABLE HEIGHT CONCRETE RETAINING WALL
⊠	■	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
△T	△T	TELEPHONE SERVICE BOX
○	•	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	SS ═ ═ ═	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— — WW —	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
⟶	⟶	FLOW DIRECTION
▒	▒	CONCRETE SURFACE
	▪ ▪ ▪	LIMITS OF CONSTRUCTION
○ 1170		ON SITE TREE TO REMAIN
◌ 1170		TREE TO BE REMOVED
	—IP—	INLET PROTECTION (SEE DETAIL C0.4.5, & C0.4.6)
	—SF—	SILT FENCE (SEE DETAIL C0.4.1)
	—TP—	TREE PROTECTION (SEE DETAIL C0.4.4)
	∪	ROCK BERM (SEE DETAIL C0.4.2)
	▦	CONSTRUCTION ENTRANCE (SEE DETAIL C0.4.3)
	▨	STAGING AREA (SEE DETAIL C0.4.8)
	▩	CONCRETE TRUCK WASHOUT PIT (SEE DETAIL C0.4.7)

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

LEGAL DESCRIPTION:

FOR A 42.645 ACRE TRACT OF LAND OUT OF THE PHILLIP WAGNER SURVEY NO. 573, ABSTRACT NO. 673, THE WILIAM HAAS SURVEY NO. 458, ABSTRACT NO. 238, AND THE CARL GEORG SURVEY NO. 432, ABSTRACT NO. 190, COMAL COUNTY, TEXAS, SAID 42.645 ACRE TRACT BEING ALL OF LOTS 5 AND 6, WARREN HILL SUBDIVISION RECORDED IN VOLUME 12, PAGE 312, PLAT RECORDS, COMAL COUNTY, TEXAS, AND THE REMAINING PORTION OF THAT CERTAIN 78.104 ACRE TRACT RECORDED IN DOCUMENT NO. 9706003738, OFFICIAL RECORDS, COMAL COUNTY, TEXAS

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

STATE OF TEXAS
COY D. ARMSTRONG
87617
LICENSED PROFESSIONAL ENGINEER

4/21/05

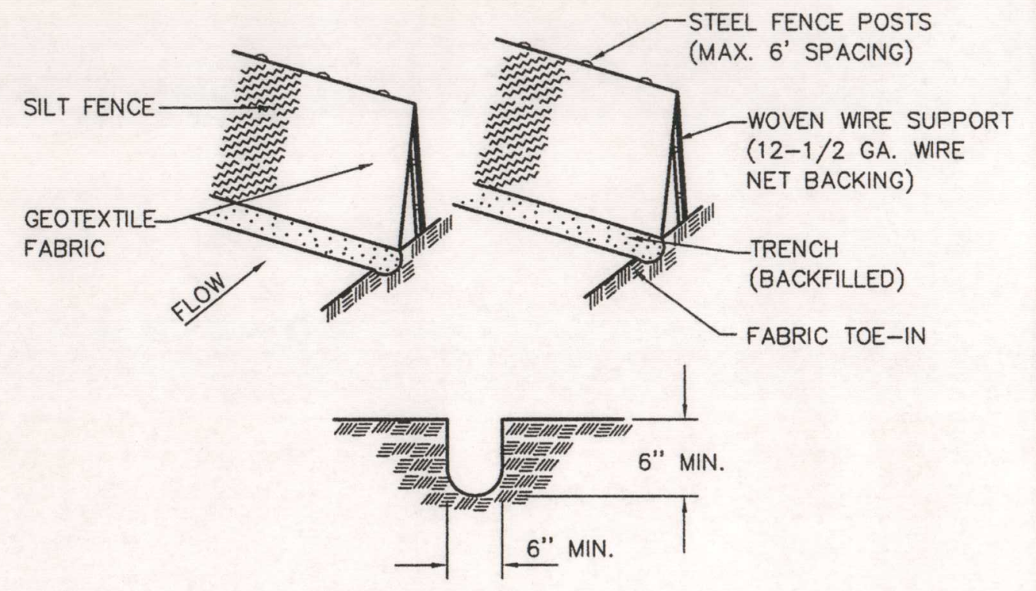
THE HOME DEPOT
BULVERDE, TEXAS

STORM WATER POLLUTION PREVENTION PLAN

PLOTTING SCALE: 1"= 1"
DATE REVISED: 03/29/05
FILE: G:\048\53\04853SWP.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-53.00

SHEET
C-0.3

Date: Apr 20, 2005, 3:27pm User ID: ewarford
File: G:\048\53\04853SWP.dwg



TRENCH CROSS-SECTION

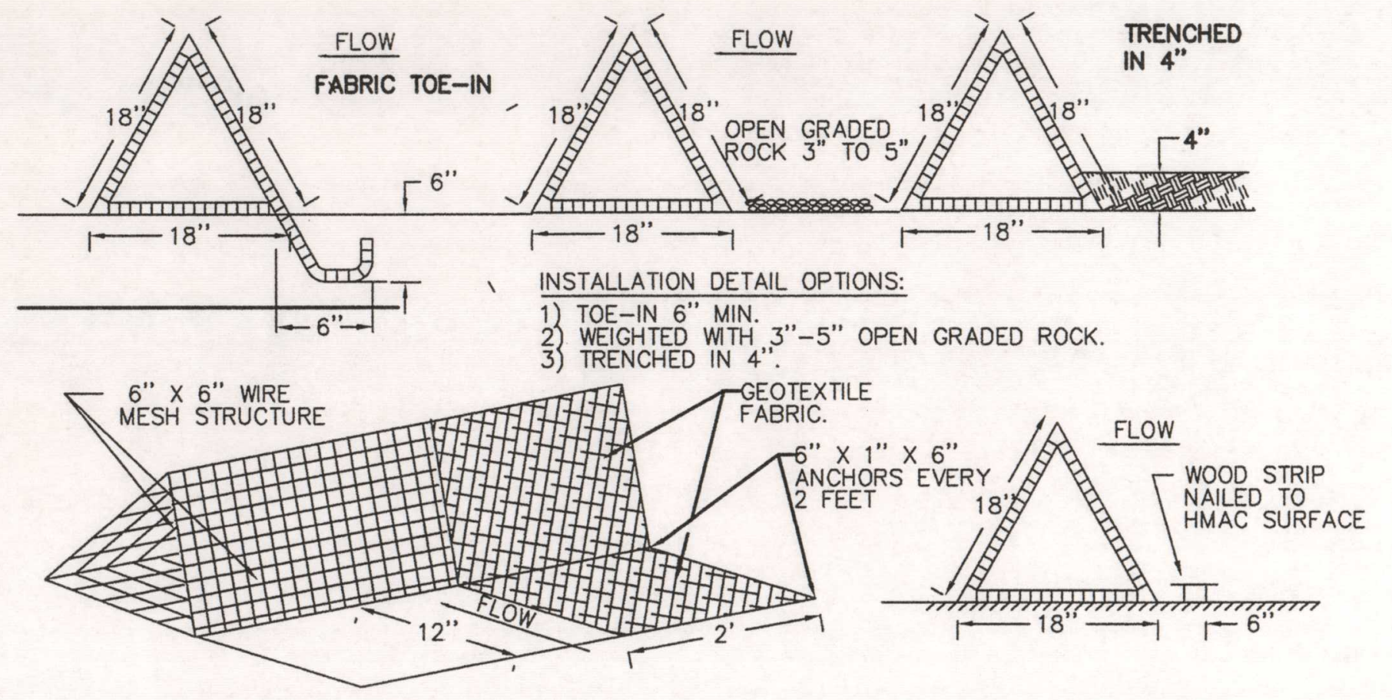
NOTES:

1. STEELPOSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. CONTRACTOR SHALL PROVIDE TRIANGULAR SEDIMENT FILTER DIKE PER DETAIL C0.4.2 WHERE SILT FENCE IS REQUIRED BUT NOT INSTALLABLE.

C-0.4.1

SILT FENCE

SCALE: N.T.S.



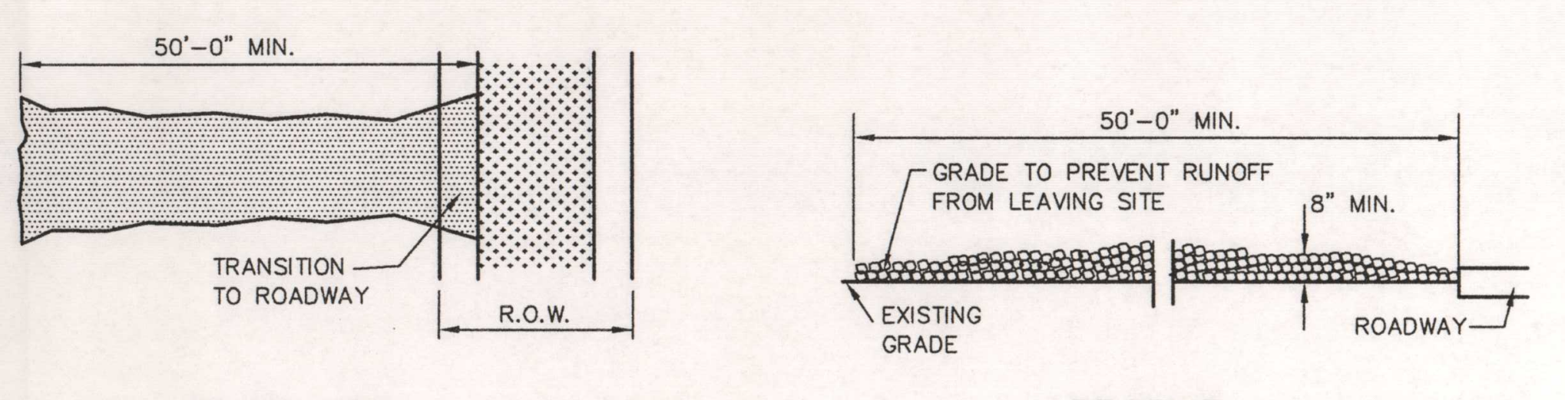
NOTES:

1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SHIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 3"-5" OPEN GRADED ROCK, OR TOED-IN 6" WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 4" INCHES.
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6 INCH WIRE STAPLES ON 2 FOOT CENTERS ON BOTH EDGES AND SKIRT, OR STAKED USING 3/8 INCH DIAMETER REBAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6 INCHES TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE 6 GA. 6" X 6" WIRE MESH, 18 INCHES ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF SIX INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN NOTE 8 ABOVE.

C-0.4.2

TRIANGULAR SEDIMENT FILTER DIKE

SCALE: N.T.S.



PLAN VIEW

PROFILE

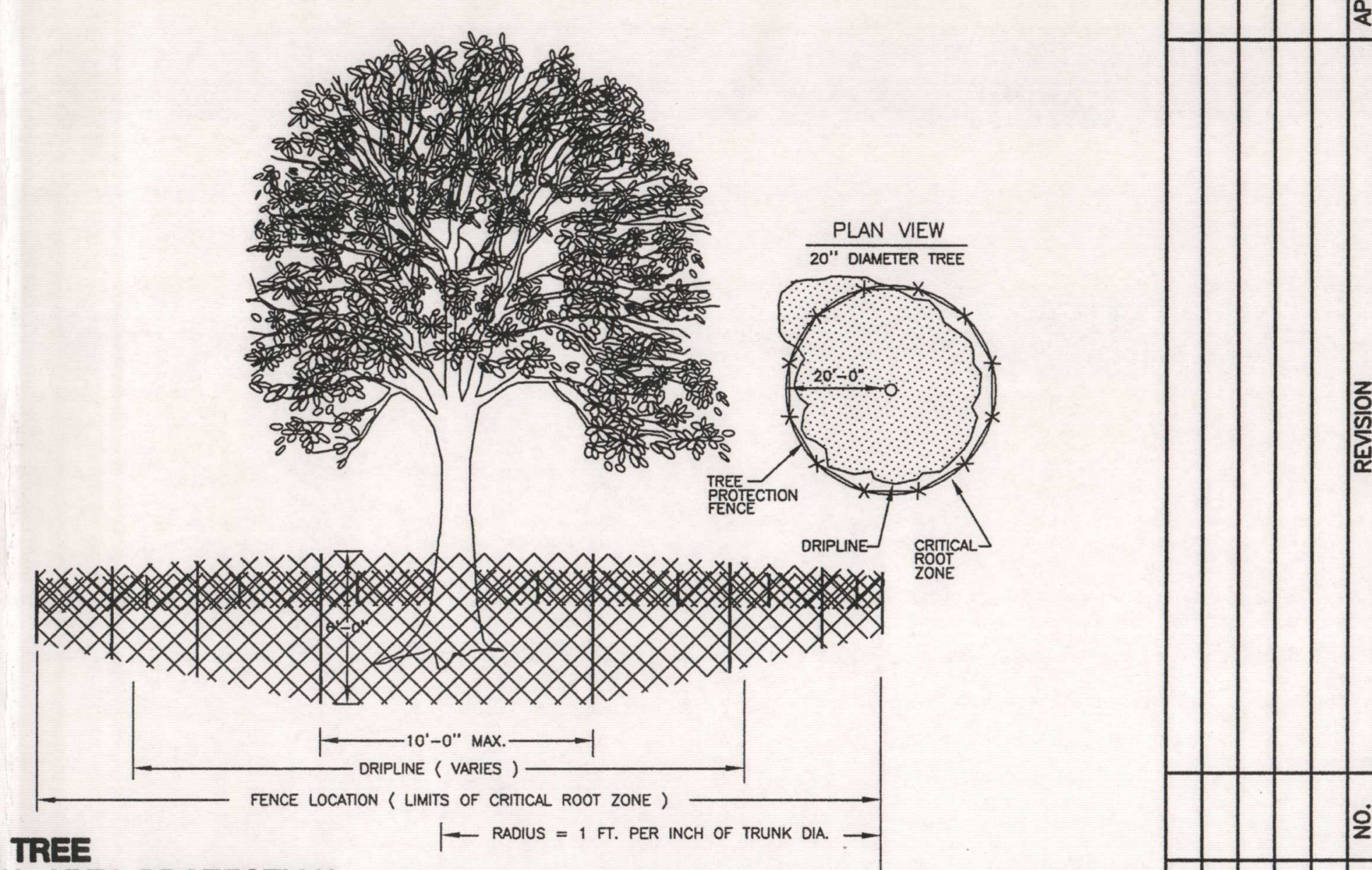
NOTES:

1. STONE SIZE– 3 TO 5 INCH OPEN GRADED ROCK.
2. LENGTH– AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS– NOT LESS THAN 8 INCHES.
4. WIDTH– NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING– WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED STRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE– ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
8. THE STABILIZED CONSTRUCTION ENTRANCE SHALL EXTEND TO THE HIGHWAY ROADWAY EDGE OF PAVEMENT. SILT FENCING SHALL ALSO BE PLACED ON EACH SIDE OF THE STABILIZED CONSTRUCTION ENTRANCE IN THE HIGHWAY RIGH-OF-WAY.

C-0.4.3

STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.



NOTES FOR TREE AND NATURAL AREA PROTECTION

1. PROTECTION FENCE SHALL BE CHAIN LINK WITH POSTS.
2. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
3. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO STANDARDS FOR TREE PROTECTION.
4. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
5. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
6. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE) , FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   - (A) SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
   - (B) ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING
   - (C) WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
   - (D) OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
7. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   - (A) WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
   - (B) WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
   - (C) WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING;
   - (D) WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS.

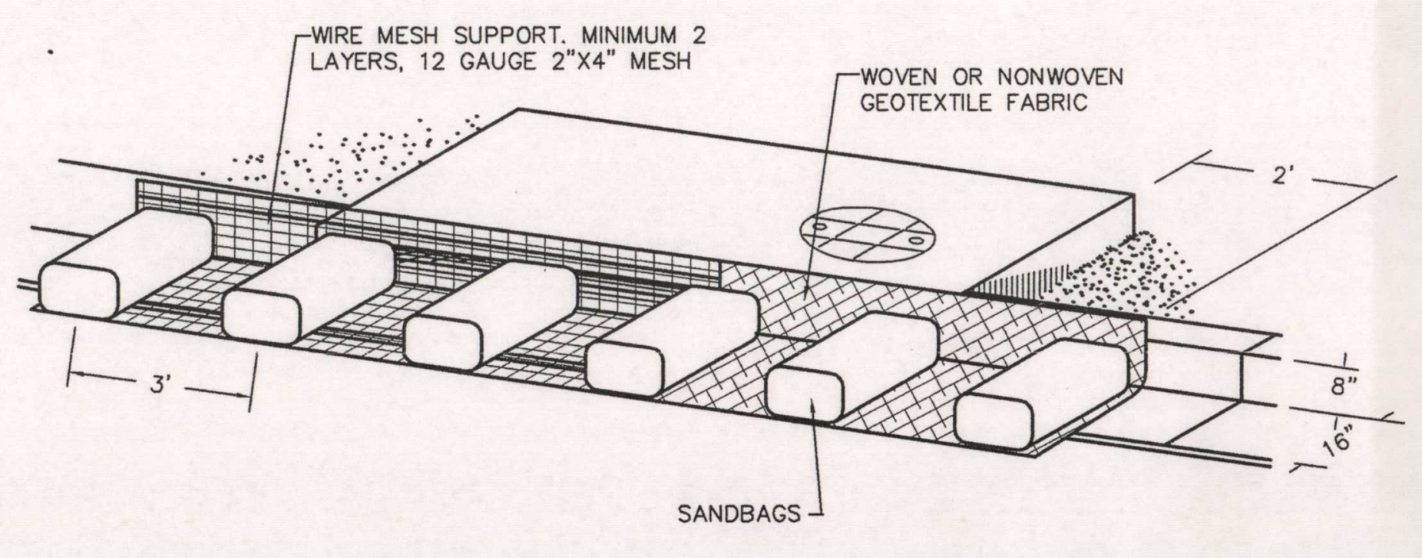
SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.

8. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
9. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
10. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
11. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
12. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
13. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.).
14. ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES
15. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NON-COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

C-0.4.4

TREE PROTECTION

SCALE: N.T.S.



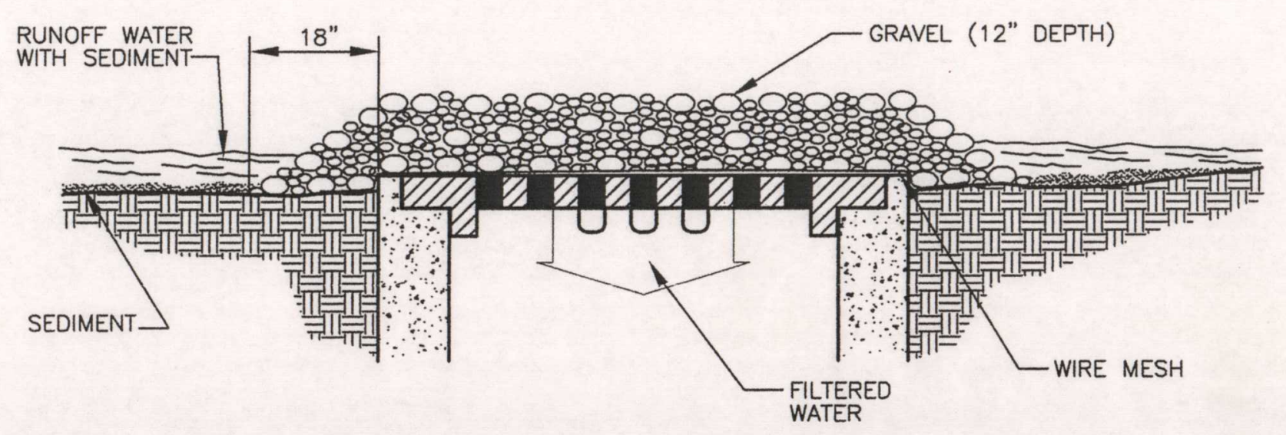
NOTES:

1. WHEN A SANDBAG IS FILLED WITH MATERIAL, THE OPEN END OF THE SANDBAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CHORD.
2. INLET PROTECTION SHALL BE PLACED OVER THE MOUTH OF THE INLET WITH A 2 FOOT OVERLAP ON EITHER SIDE.
3. *THE FABRIC COVER AND SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE.*
4. THE SKIRT SHALL BE WEIGHTED WITH ONE 18"X24"X6" SANDBAG EVERY 3 FEET.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF FOUR INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
7. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN NOTE 6 ABOVE.

C-0.4.5

CURB INLET PROTECTION BARRIER

SCALE: N.T.S.



NOTE:

A. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE *STRIPS SHALL BE OVERLAPPED.*

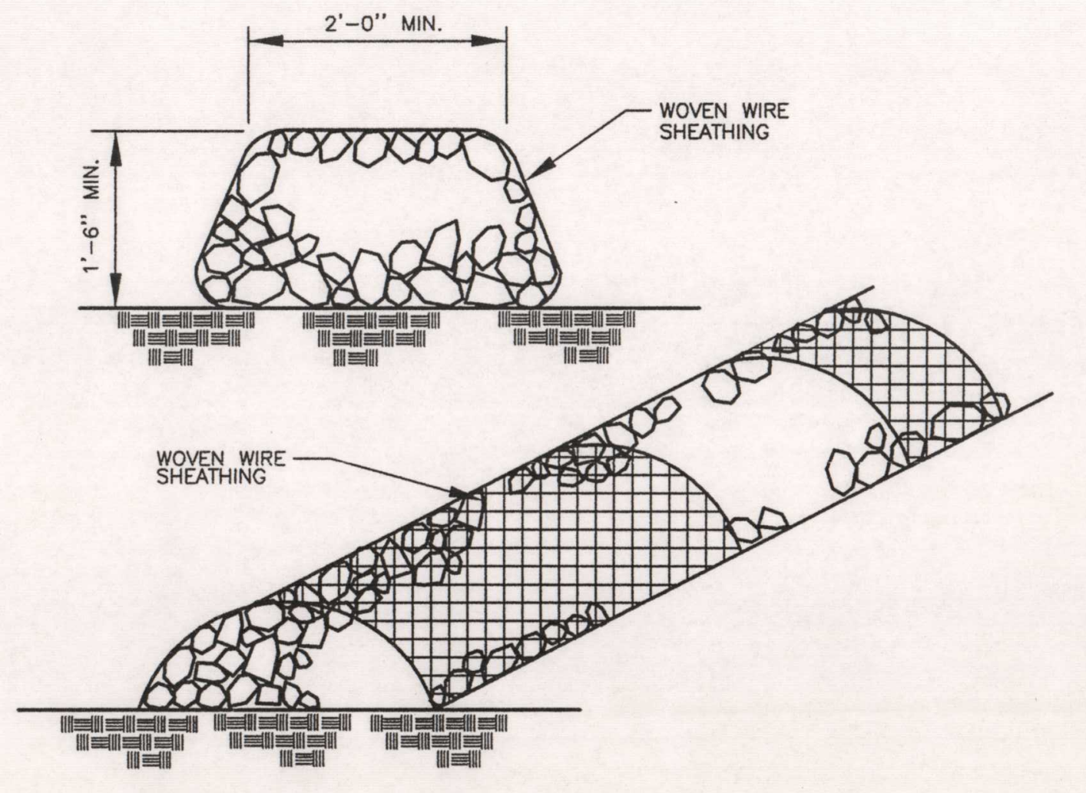
B. AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ABOVE. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.

C. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS IT'S FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

C-0.4.6

GRATE INLET PROTECTION BARRIER

SCALE: N.T.S.



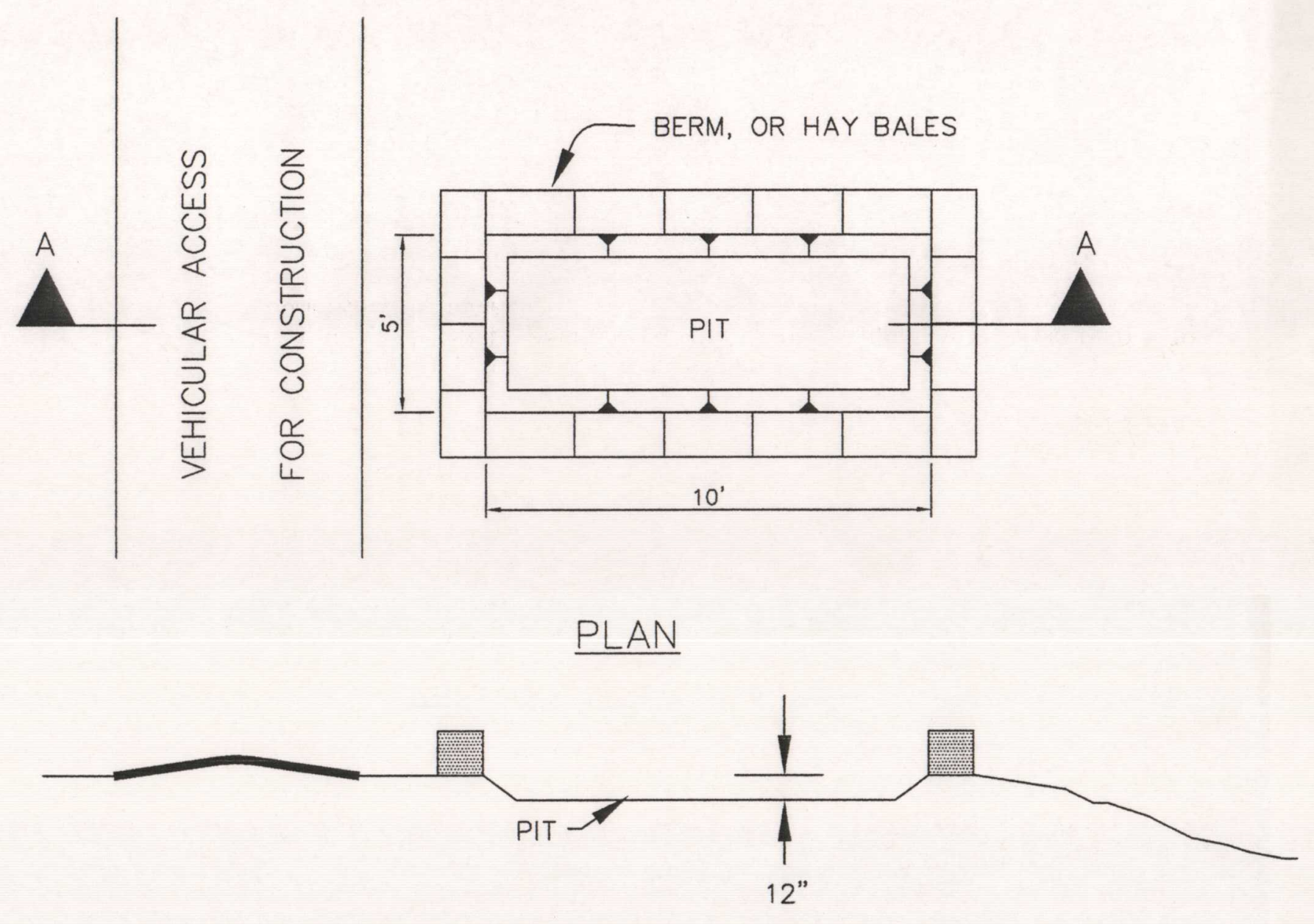
NOTES:

1. USE ONLY OPEN GRADED ROCK 4-8 INCH DIAMETER FOR STREAMFLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER *CONDITIONS*.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE – WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.
7. WHEN PLACED IN THE HIGHWAY RIGHT-OF-WAY SHALL MAINTAIN A MAXIMUM 6:1 SLOPE.

C-0.4.7

ROCK BERM

SCALE: N.T.S.



GENERAL NOTES:

Detail illustrates minimum dimensions. Pit can be increased in size depending on expected frequency of use.

If hay bales are used, they shall be placed in accordance with details shown on Exhibit for hay bales.

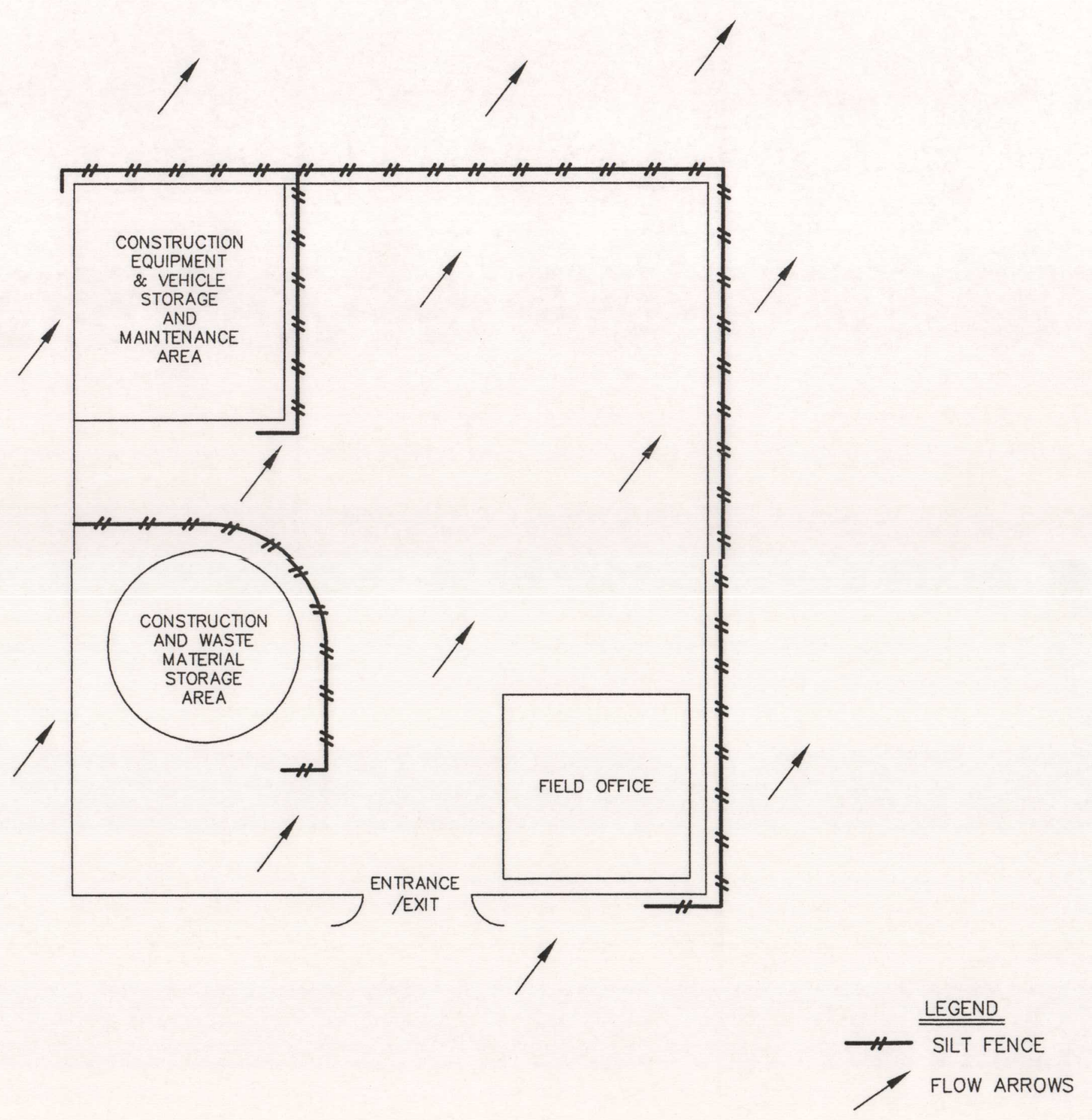
Washout pit shall be located in an area easily accessible to construction traffic.

Washout pit shall not be located in areas subject to inundation from storm water runoff.

C-0.4.8

CONCRETE TRUCK WASHOUT PIT

SCALE: N.T.S.



C-0.4.9

TYPICAL CONSTRUCTION STAGING AREA

SCALE: N.T.S.

REVISION	DATE	NO.	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617

4/21/05

THE HOME DEPOT
BULVERDE, TEXAS

STORM WATER POLLUTION PREVENTION PLAN DETAILS

PLOTTING SCALE: 1"= 1'
DATE REVISED: 03/28/05
FILE: G:\048\53\04853SWPD.dwg
DRAWN BY: ENW
DESIGNED BY: KPK
REVIEWED BY: CDA
PROJECT NO.: 048-53.30

SHEET
C-0.4

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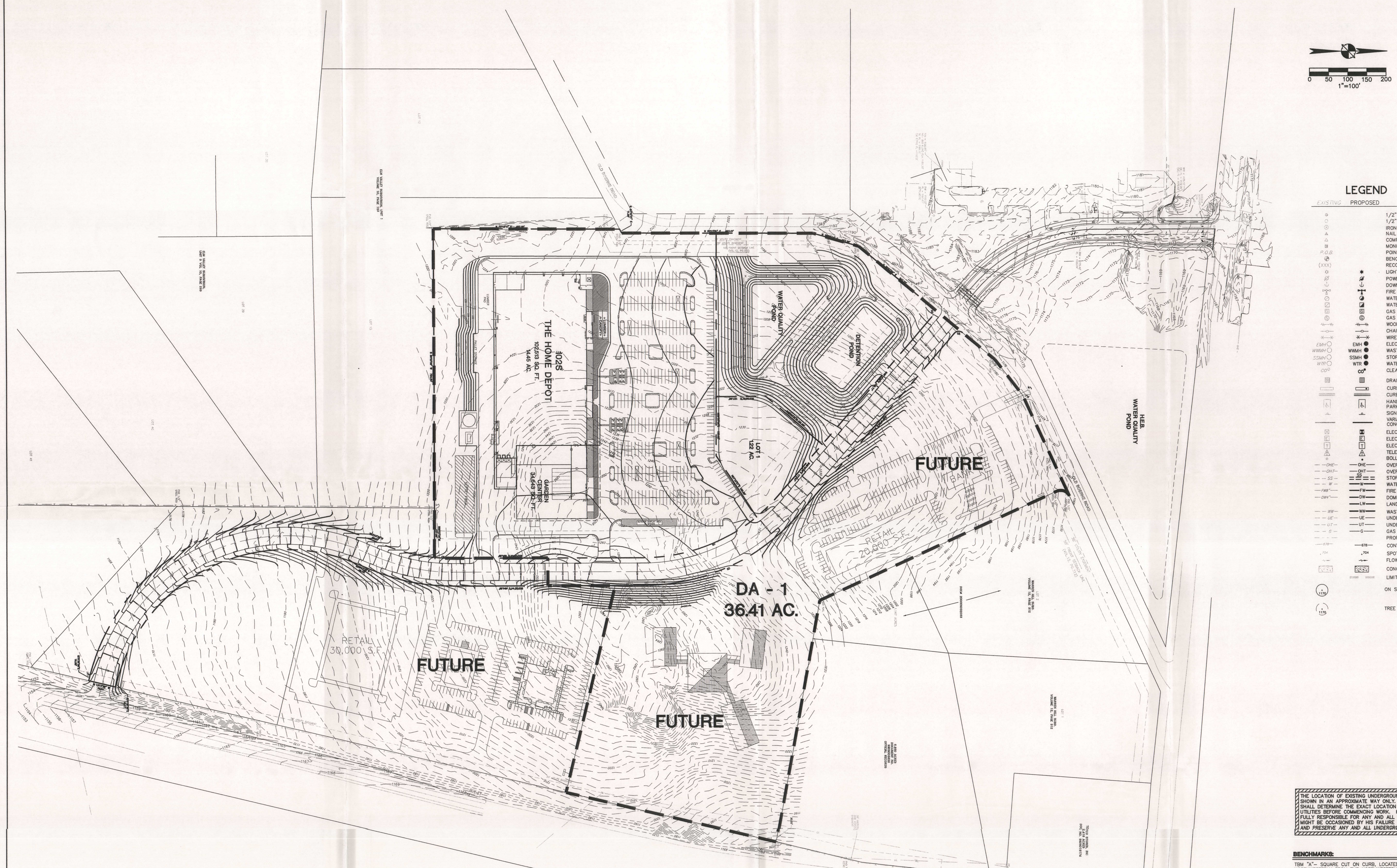

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
◎		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
◕		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
Ø	Ø	POWER POLE
⚓	⚓	DOWN GUY
		FIRE HYDRANT
⊘	◑	WATER VALVE
◪	◩	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
—//—//—	—//—//—	WOOD FENCE
—o—	—o—	CHAIN LINK FENCE
—×—×—	—×—×—	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO ○	CO ●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
		SIGN
		VARIABLE HEIGHT CONCRETE RETAINING WALL
☒	☒	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
T	T	TELEPHONE SERVICE BOX
○	●	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	SS	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— — WW —	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
		FLOW DIRECTION
		CONCRETE SURFACE
		LIMITS OF CONSTRUCTION
+1170		ON SITE TREE TO REMAIN
+1170		TREE TO BE REMOVED

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

LEGAL DESCRIPTION:

FOR A 42.645 ACRE TRACT OF LAND OUT OF THE PHILLIP WAGNER SURVEY NO. 573, ABSTRACT NO. 673, THE WILIAM HAAS SURVEY NO. 458, ABSTRACT NO. 238, AND THE CARL GEORG SURVEY NO. 432, ABSTRACT NO. 190, COMAL COUNTY, TEXAS, SAID 42.645 ACRE TRACT BEING ALL OF LOTS 5 AND 6, WARREN HILL SUBDIVISION RECORDED IN VOLUME 12, PAGE 312, PLAT RECORDS, COMAL COUNTY, TEXAS, AND THE REMAINING PORTION OF THAT CERTAIN 78.104 ACRE TRACT RECORDED IN DOCUMENT NO. 9706003738, OFFICIAL RECORDS, COMAL COUNTY, TEXAS

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617
Coy D. Armstrong
4/21/05

THE HOME DEPOT
BULVERDE, TEXAS

THE HOME DEPOT

DRAINAGE AREA MAP

PLOTTING SCALE: 1"= 1"
DATE REVISED: 03/29/05
FILE: G:\048\53\04853DAM.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–53.00

SHEET
EX-1

Date: Apr 21, 2005, 11:06am User ID: ewarford
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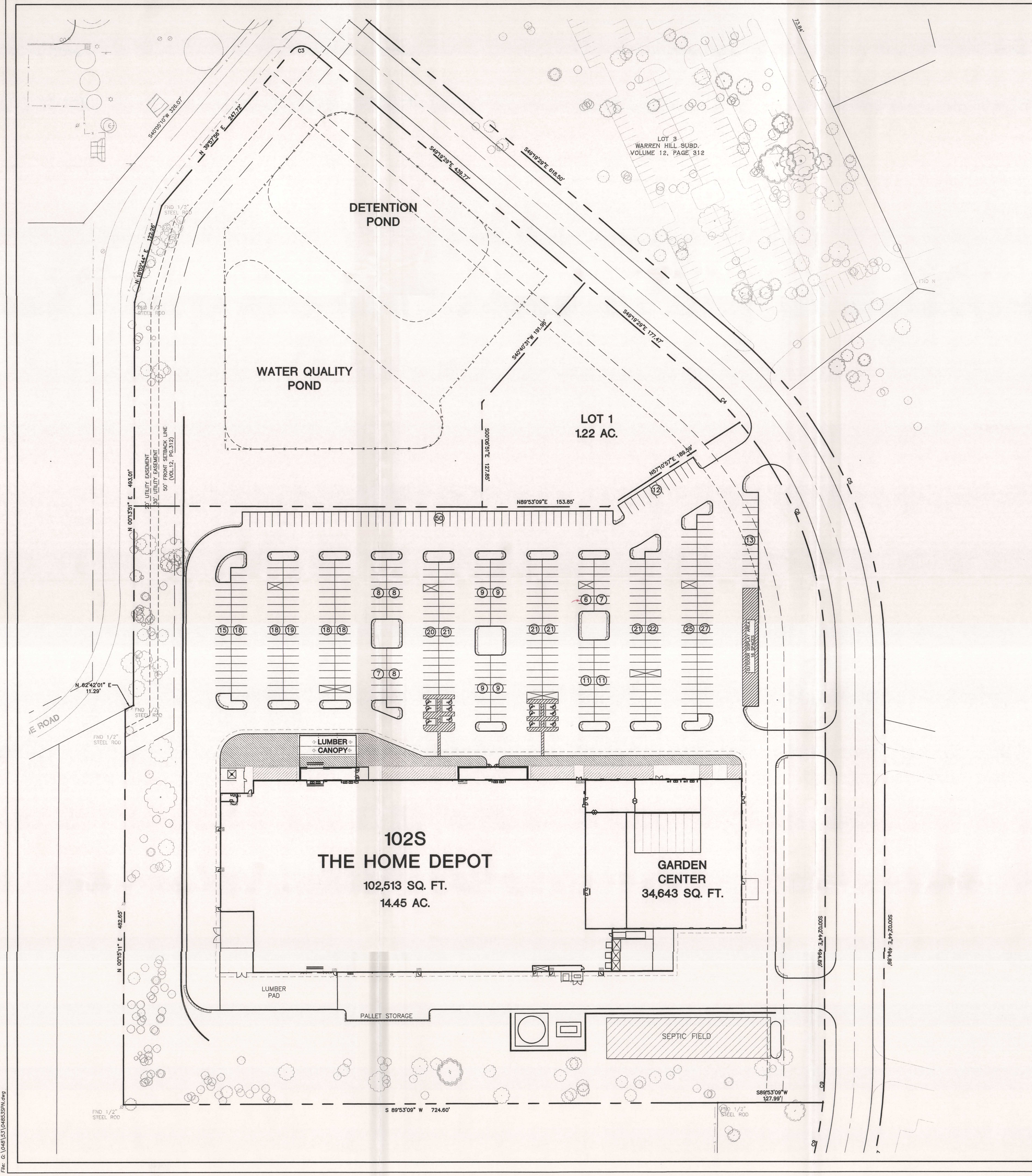
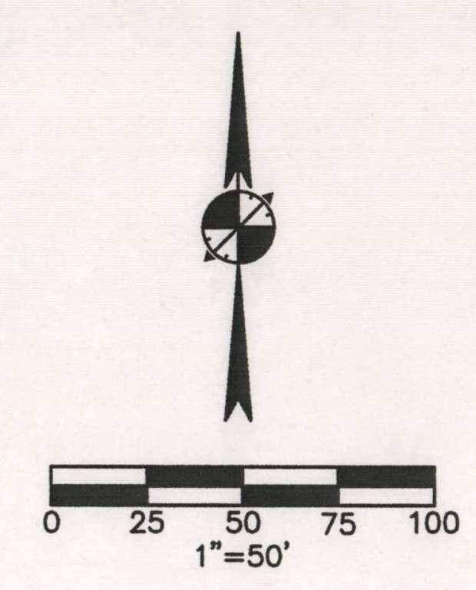




KEY NOTES

1. INSTALL CROSSWALK PER DETAIL C4.0.12
2. INSTALL TRAFFIC ARROWS PER DETAIL C4.0.5
3. INSTALL 4" YELLOW STRIPES AT 45° ON 2' CENTERS (TYP.)
4. INSTALL STOP BAR AND STOP SIGN PER DETAIL C4.0.4 & C4.0.13 (TYP.)
5. INSTALL HANDICAP PARKING, SIGNS, AND WHEELSTOPS PER DETAILS C4.0.9, C4.0.7, & C4.0.6
6. INSTALL CURB ISLANDS. PROVIDE FOR POSITIVE DRAINAGE OFF ISLAND, 2% SLOPE MINIMUM. (TYP.) REFER TO LANDSCAPE SPECIFICATIONS FOR BACKFILL REQUIREMENTS WITHIN PARKING OT LANDSCAPE ISLANDS.
7. INSTALL CONCRETE CURB AND GUTTER PER DETAIL C4.0.3
8. INSTALL PEDESTRIAN RAMPS PER DETAIL C4.0.8, SEE SITE PLAN NOTE 15.
9. INSTALL DRIVEWAY WITHIN CITY R.O.W. PER DETAIL C4.0.2
10. INSTALL 5' SIDEWALK PER DETAIL C4.0.10
11. INSTALL CONCRETE END ISLAND/CURB DETAIL ALONG RADII AS INDICATED PER DETAIL C4.0.11
12. REFER TO ARCHITECTUAL PLANS FOR STRIPING AROUND BUILDING AND BETWEEN DRIVE AND BUILDING.
13. INSTALL 4" WHITE STRIPE
14. CARROLL CART LOCATIONS (PROVIDED BY OWNER)

SITE PLAN NOTES:

1. ALL ON-SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT HOME DEPOT SPECIFICATIONS.
2. ALL CONSTRUCTION IN CITY RIGHT-OF-WAYS AND/OR EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY OF BULVERDE STANDARD SPECIFICATIONS.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS AS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
4. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.
6. IF CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS, HE/SHE SHALL CONTACT THE CONSTRUCTION MANAGER/SUPERVISOR AND CIVIL ENGINEER IMMEDIATELY.
7. CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION AND SHALL REPLACE OR REPAIR, AT HIS OWN EXPENSE, BENCHMARKS AND MONUMENTATION DISTURBED DURING CONSTRUCTION.
8. IF CONTRACTOR RELOCATES OR SETS NEW BENCHMARKS, THE VERTICAL ELEVATIONS OF THE BENCHMARKS SHALL BE SET TO A TOLERANCE OF 0.010 FT.
9. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, BUILDING FACE OF BRICK, STONE AND FACE OF WALLS. UNLESS OTHERWISE NOTED.
10. REFER TO ARCHITECTURAL PLANS FOR DETAILED BUILDING DIMENSIONS.
11. ALL CURB RADII SHALL BE 5.0' UNLESS OTHERWISE NOTED.
12. THE AMERICANS WITH DISABILITIES ACT (ADA) GUIDELINES, BOTH FEDERAL AND STATE ARE TO BE INCORPORATED IN ALL CONSTRUCTION DOCUMENTS. IF ANY CRITERIA CANNOT BE MET THEN HOME DEPOT IS TO BE ALERTED OF THE CONDITION AND INFORMED OF THE MEASURES THAT WOULD BE NECESSARY TO BE IN CONFORMANCE.
13. POSTING OF FIRE LANES IS REQUIRED. PROVIDE A RED STRIPE 4" WIDE AND THE WORDS " FIRE LANE – TOW AWAY ZONE " IN 4" WHITE LETTERS SPACED EVERY 25 FT ALONG VERTICAL FACE OF CURB AND PAVEMENT AROUND PERIMETER OF BUILDING AND GARDEN CENTER. STRIPE EACH SIDE OF DRIVE IN FRONT AND SIDES OF BUILDING AND PAINT CURB AND 20' OFFSET FROM CURB AT REAR OF BUILDING. GENERAL CONTRACTOR IS RESPONSIBLE TO MEET CITY REQUIREMENTS.
14. BUILDING IS PARALLEL TO THE SOUTH PROPERTY LINE BEHIND HOME DEPOT BUILDING.
15. ALL PEDESTRIAN RAMPS TO BE TEXTURED AND PAINTED/ STAINED PER A.D.A. REQUIREMENTS.
16. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING UTILITIES, PAVEMENT AND STRUCTURES WITHIN OR AROUND THE PROPOSED BUILDING PAD LIMITS OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL, RELOCATION AND COORDINATION OF THESE EXISTING UTILITIES, PAVEMENT AND STRUCTURES. CONTRACTOR SHALL CONTACT ENGINEER IF A CONFLICT EXISTS.
17. THESE PLANS REPRESENT PAD PREPARATION AS RECOMMENDED BY DRASH CONSULTING ENGINEERS, INC., PROJECT NO. 204G1345. DATED: MARCH 14, 2005. REFER TO THIS REPORT FOR ADDITIONAL BUILDING PAD PREPARATION DETAILS.
18. **PROVIDE PAD CERTIFICATION FROM A LICENSED SURVEYOR AND SOIL COMPACTION DOCUMENTATION FROM A GEOTECHNICAL ENGINEER.**
19. PUMPING RUNOFF OR RAINWATER FROM A BUILDING EXCAVATION IS NOT AN EXTRA PAY ITEM.
20. CONTRACTOR SHALL INCLUDE (14) EXTRA 6" STEAL PIPE BOLLARDS, CONCRETE FILLED AND PAINTED IN BID FOR INSTALLATION ON SITE AT THE HOME DEPOTS REQUEST.

PARKING SUMMARY

SITE AREA:

PARKING SUMMARY	SF	RATIO	REQUIRED	PROVIDED
HOME DEPOT BUILDING	102,513	1/200	513	459
GARDEN CENTER (ROOFED AREA)	34,643 (9,162)		0	0
TOTAL	137,156		513	459
HOME DEPOT RATIO PROVIDED				1/223 SF
HOME DEPOT FRONT FIELD PROVIDED				459
H/C PARKING		2%	10	12
(VAN ACCESSIBLE)			(2)	(3)

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
⊕		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
⌀	⌀	POWER POLE
⫰	⫰	DOWN GUY
⋈	⋈	FIRE HYDRANT
⊘	◐	WATER VALVE
⧄	◪	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
—//—//—	—//—//—	WOOD FENCE
—○—	—○—	CHAIN LINK FENCE
×——×	×——×	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO○	CO●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
⫠	⫠	SIGN
▬ ▬	▬ ▬	VARIABLE HEIGHT CONCRETE RETAINING WALL
⊠	⊠	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
T	T	TELEPHONE SERVICE BOX
○	●	BOLLARD
— —*OHE*—	—OHE—	OVER HEAD ELEC. LINE
— —*OHT*—	—OHT—	OVER HEAD TELEPHONE
— —*SS*—	SS	STORM SEWER LINE
— —*W*—	—W—	WATER LINE
—*FW8"*—	—FW—	FIRE WATER LINE
—*DW4"*—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— —*WW*—	—WW—	WASTEWATER LINE
— —*UE*—	—UE—	UNDERGROUND ELECTRIC
— —*UT*—	—UT—	UNDERGROUND TELEPHONE
— —*G*—	—G—	GAS LINE
— - — - —		PROPERTY LINE
—*678*—	—678—	CONTOUR
+*704*	+704	SPOT ELEVATION
⇢	⇢	FLOW DIRECTION
▨	▨	CONCRETE SURFACE
	▬ ▬ ▬	LIMITS OF CONSTRUCTION
⊕ 1170		ON SITE TREE TO REMAIN
◌ 1170		TREE TO BE REMOVED

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

LEGAL DESCRIPTION:

FOR A 42.645 ACRE TRACT OF LAND OUT OF THE PHILLIP WAGNER SURVEY NO. 573, ABSTRACT NO. 673, THE WILIAM HAAS SURVEY NO. 458, ABSTRACT NO. 238, AND THE CARL GEORG SURVEY NO. 432, ABSTRACT NO. 190, COMAL COUNTY, TEXAS, SAID 42.645 ACRE TRACT BEING ALL OF LOTS 5 AND 6, WARREN HILL SUBDIVISION RECORDED IN VOLUME 12, PAGE 312, PLAT RECORDS, COMAL COUNTY, TEXAS, AND THE REMAINING PORTION OF THAT CERTAIN 78.104 ACRE TRACT RECORDED IN DOCUMENT NO. 9706003738, OFFICIAL RECORDS, COMAL COUNTY, TEXAS

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

STATE OF TEXAS
COY D. ARMSTRONG
87617
LICENSED PROFESSIONAL ENGINEER

Coy D. Arty
4/21/05

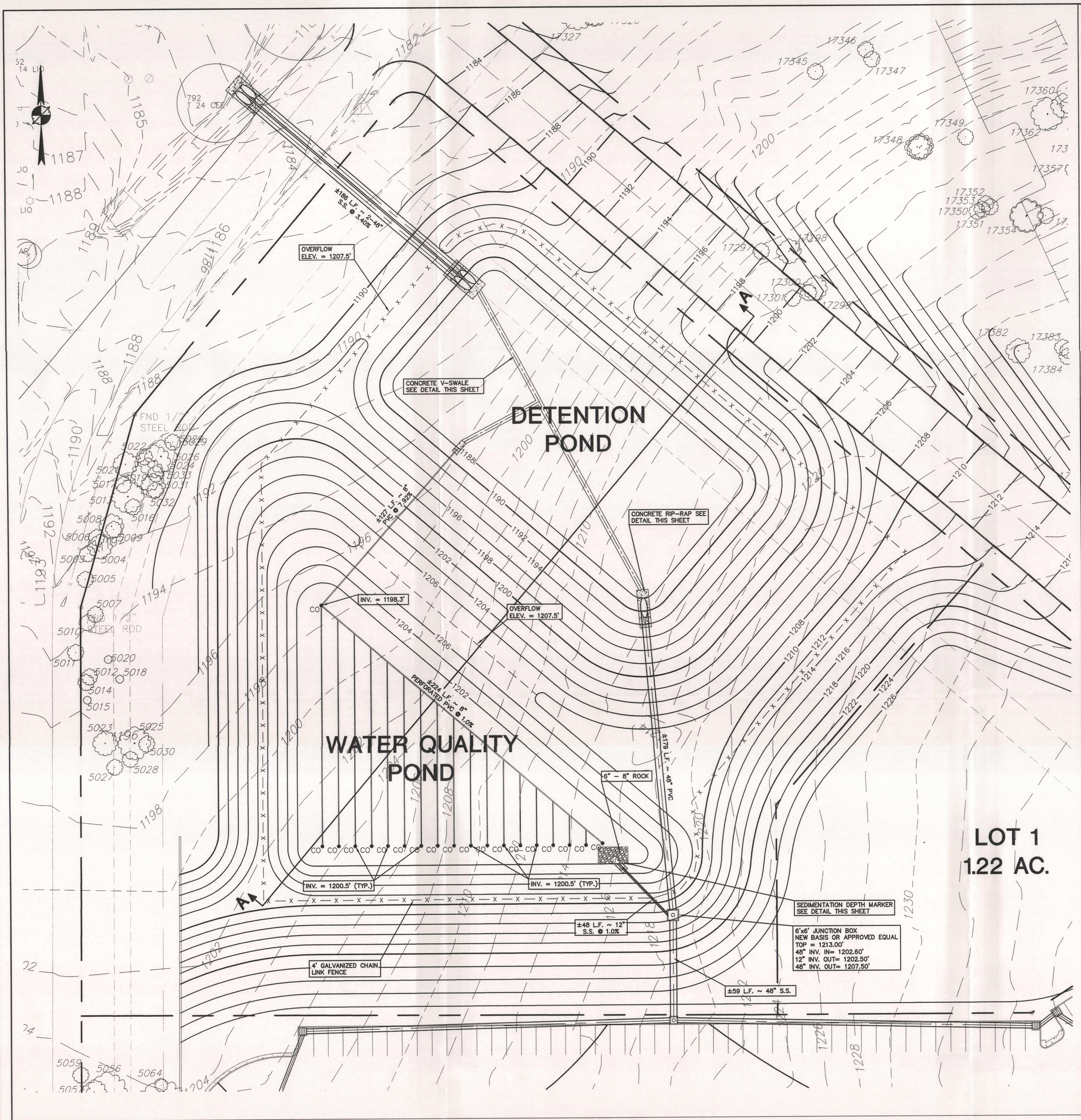
THE HOME DEPOT
BULVERDE, TEXAS

SITE PLAN

PLOTTING SCALE: 1"= 1"
DATE REVISED: 03/29/05
FILE: G:\048\53\04853SPN.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–53.00

SHEET
C-1.1

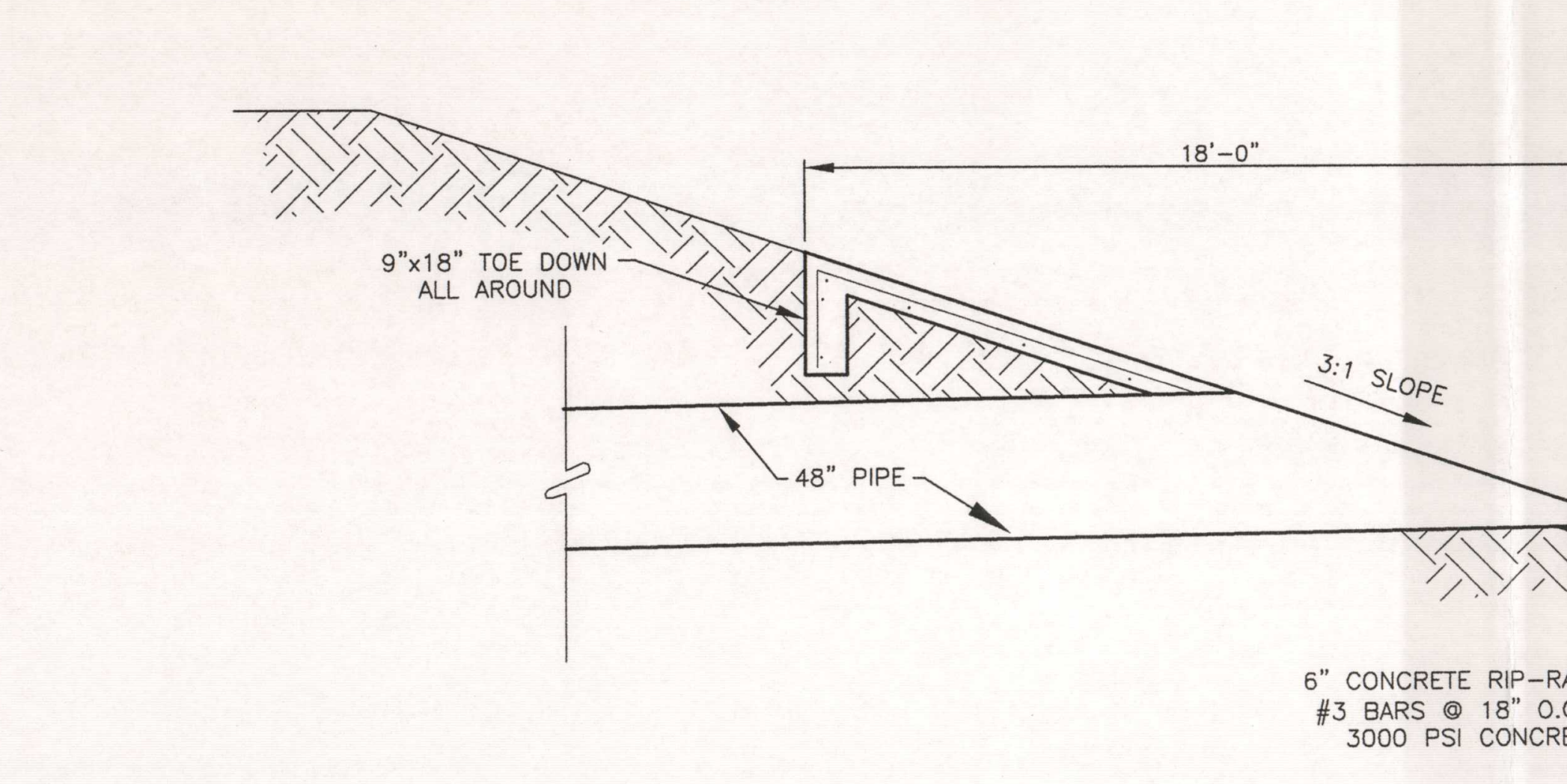
Date: Apr 20, 2005, 3:25pm User ID: ewarford
File: G:\048\53\04853SPN.dwg



C5.1.1

WATER QUALITY POND - PLAN VIEW

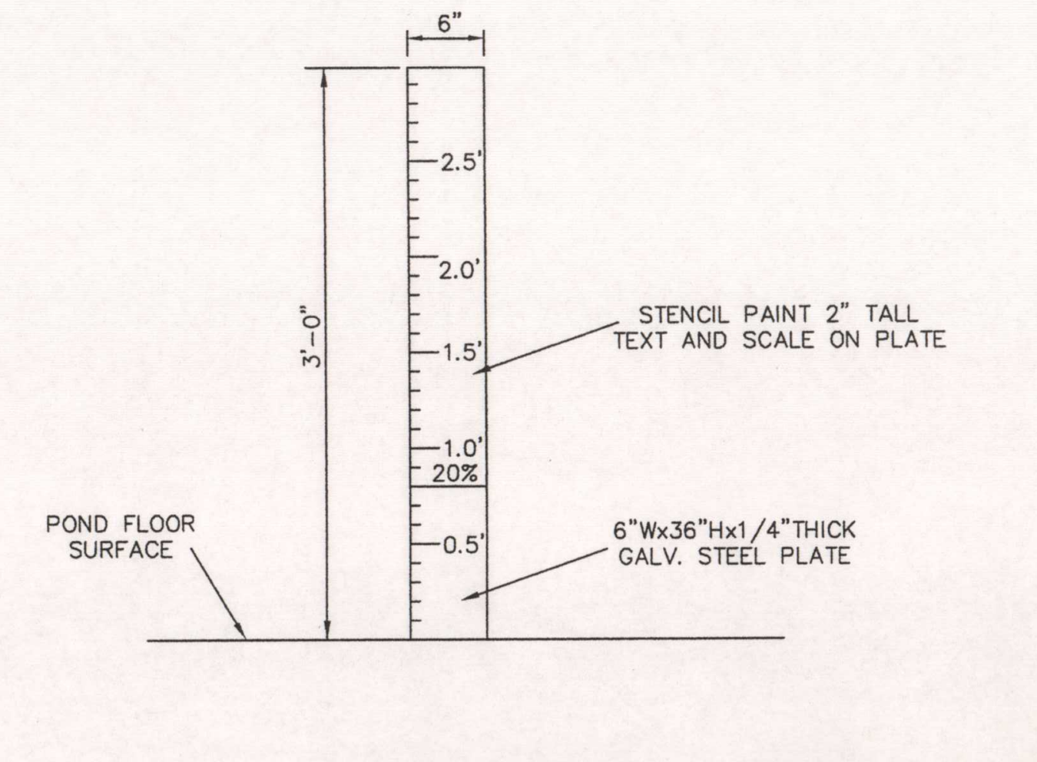
SCALE: 1"= 30'-0"



C5.1.2

RIP-RAP DETAIL

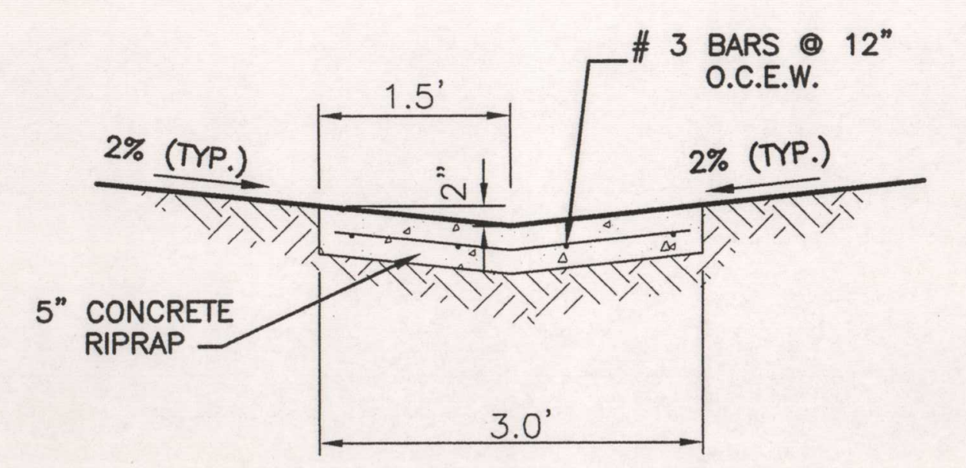
SCALE: N.T.S.



C5.1.3

SEDIMENT DEPTH MARKER

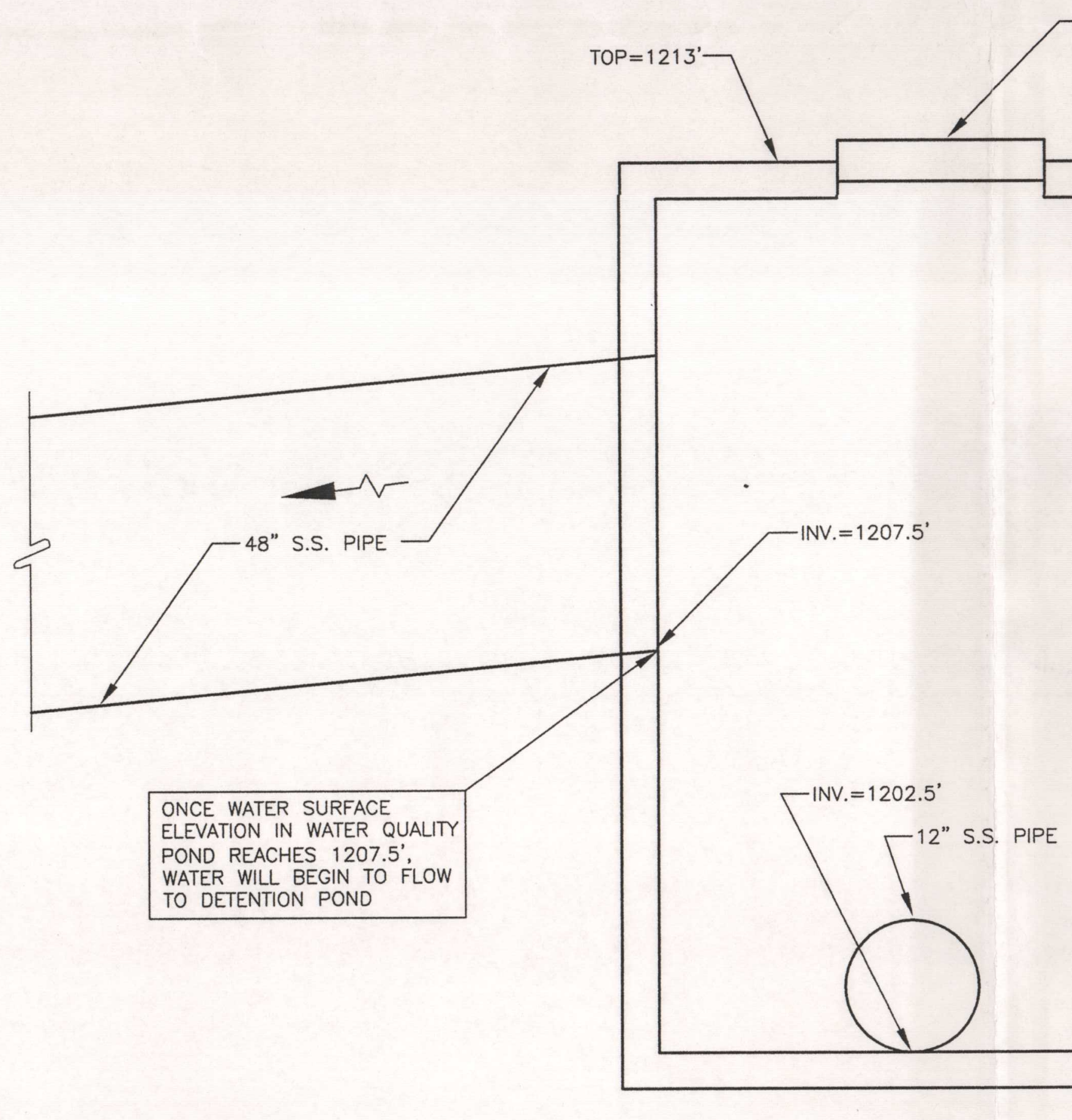
SCALE: N.T.S.



C5.1.4

CONCRETE V- SWALE

SCALE: N.T.S.



C5.1.5

SPLITTER BOX DETAIL

SCALE: 1"=3'-0"

FOR SEDIMENTATION AND FILTRATION PONDS

IMPERMEABLE LINERS MAY BE EITHER CLAY, CONCRETE OR GEOMEMBRANE. IF GEOMEMBRANE IS USED, SUITABLE GEOTEXTILE FABRIC SHALL BE PLACED ON THE TOP AND BOTTOM OF THE MEMBRANE FOR PUNCTURE PROTECTION. CLAY LINERS SHALL MEET THE FOLLOWING SPECIFICATIONS:

TABLET 1–7

CLAY LINER SPECIFICATION

PROPERTY	TEST METHOD	UNIT	SPECS.
PERMEABILITY	ASTM D-2434	Cm/Sec	1×10^{-6}
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D-422	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D-2216	%	95% OF STANDARD PROCTOR DENSITY

THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF 12 INCHES.

IF A GEOMEMBRANE LINER IS USED IT SHALL HAVE A MINIMUM THICKNESS OF 30 MILS AND BE ULTRAVIOLET RESISTANT.

THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHALL BE PLACED ON THE TOP AND BOTTOM OF THE GEOMEMBRANE AND SHALL MEET THE FOLLOWING SPECIFICATIONS:

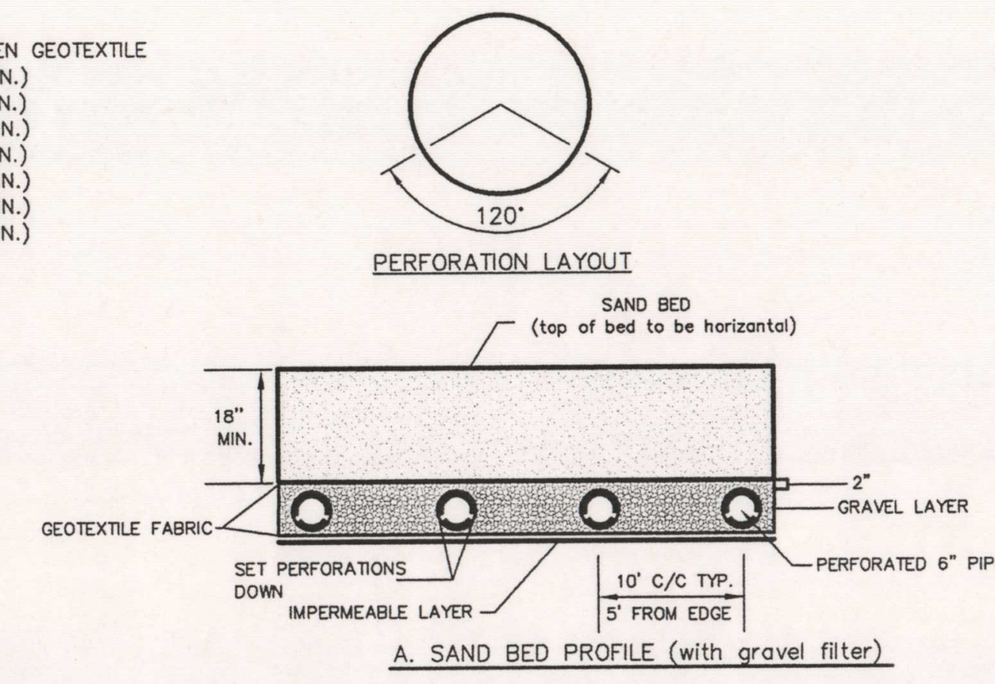
PROPERTY	TEST METHOD	UNIT	SPECS.
MATERIAL			NONWOVEN GEOTEXTILE
UNIT WEIGHT		OZ/SQ.YD.	8 (MIN.)
FILTRATION RATE		IN/SEC	0.08 (MIN.)
GRAB STRENGTH	ASTM D-1682	LB.	400 (MIN.)
PUNCTURE STRENGTH	ASTM D-751(MOD.)	LB.	125 (MIN.)
MULLEN BURST STRENGTH	ASTM D-751	PSI.	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	300 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80 (MIN.)

SAND BED AND GEOTEXTILE FABRIC

FIRST (TOP) LAYER– FINE SAND, 0.02–0.04 INCH, 12 INCH TO 18 INCH DEPTH

SECOND LAYER– 1/2–2 INCH GRAVEL, AT LEAST 1 INCH DEPTH TO 2 INCH DEPTH SURROUNDING UNDERDRAIN PIPING

THE TWO LAYERS MUST BE SEPARATED FROM EACH OTHER USING SUITABLE GEOTEXTILE FABRIC MEETING THE ABOVE SPECIFICATIONS:

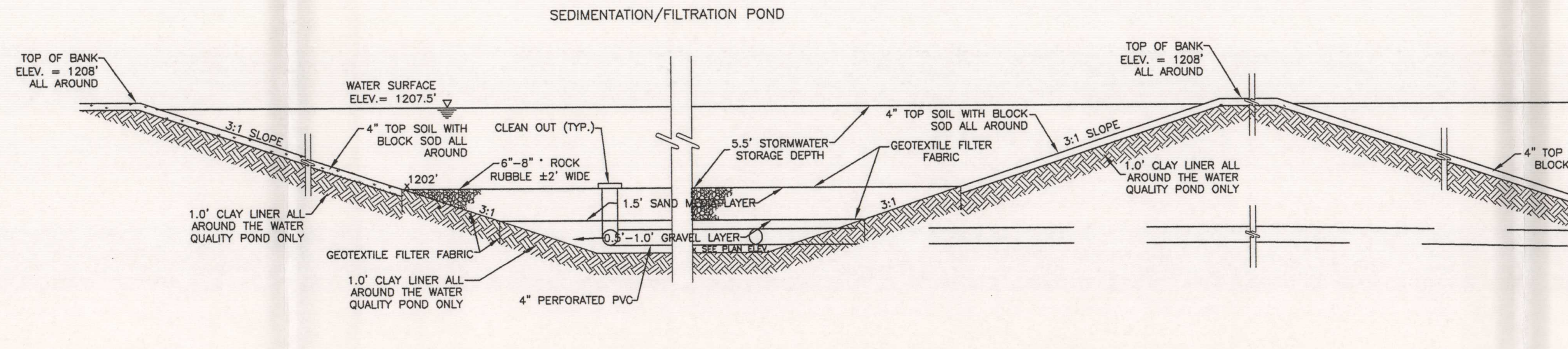


A. SAND BED PROFILE (with gravel filter)

C5.1.6

FILTRATION POND SAND BED W/ GEOTEXTILE FABRIC

SCALE: N.T.S.



C5.1.7

CROSS SECTION A-A

SCALE: N.T.S.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617

4/21/05

THE HOME DEPOT
BULVERDE, TEXAS

WATER QUALITY POND &
DETENTION POND DETAILS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 03/29/05
FILE: G:\048\53\04853WQP01.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-54.00

SHEET
C-5.3

Date: Apr 21, 2005, 8:16am User ID: ewarford
File: G:\048\53\04853WQP01.dwg

Texas Commission on Enviormental Quality

TSS Removal Calculations

Project: ***Home Depot Bulverde, TX (TX-413b)***
Date Prepared: 10/06/2004

Existing Load Calculations (Baseline):

Annual Load, Le = A x P x Rv x C x 0.226

where:
Le = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (32 for Travis and Williamson County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = 0.546(IC)2 + 0.328(IC) + 0.030
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (80 mg/l for undeveloped land)
0.226 = Units conversion factor

Existing Site Data:

A = 36.41 acres
P = 33 inches
IC = 0 %
C = 80 mg/l

Rv = 0.030

Le = 651.71 lbs.

Post Development Load Calculations:

Annual Load, Ld = A x P x Rv x C x 0.226

where:
Ld = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (30 for Bexar County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = $0.546(IC)^2 + 0.328(IC) + 0.030$
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (170 mg/l for developed land)
0.226 = Units conversion factor

Developed Site Data:

A = 36.41 acres
P = 33 inches
IC = 90 %
C = 170 mg/l

Rv = 0.767

Ld = 35428.09 lbs.

Calculation of Required TSS Load Reduction:

Load reduction, Lr = 0.80 x (Ld − Le)

Lr = 27821.10 lbs.

BMP Sizing Calculations

Table 3.4 BMP Removal Efficiency of TSS:

BMP	TSS Reduction (%)
Retention / Irrigation	100
Extended Detention Basin	75
Grassy Swale	70
Vegetated Filter Strips	85
Sand Filter	89
Wet Basin	93
Constructed Wetland	93

Based upon a selected BMP, the required pond volume is determined as follows:

$$Flc = \frac{Lr}{Ld \times BMPre \times Fst}$$

where:
Flc = Fraction of the load captured by the BMP
Lr = Required TSS load reduction to achieve 80%
BMPre = BMP removal efficiency from Table 3.4 (above)
Fst = Fraction of the site treated
where: Fst = (A − Bypass)/ A
Abp = Contributing drainage area to the BMP plus any IC bypass, acres
IC bypass = IC area of the site not draining to the BMP

BMPre = 89
BMP Name = **Sand Filter**
Abp = 36.41 acres
IC bypass = 1.32 acres

Fst = 0.96

Flc = 0.916

Required BMP Capture Volume to Achieve 80% Removal Efficiency:

Capture Volume = A x Rd x 1.2

where:
Rd = Runoff depth from Table 3.3, inches
1.2 = Represents an increase in volume by 20%**

** Capture volume shall be increased by 20% to accommodate reductions in available storage volume due to deposition of solids between full-scale maintenance activities.

Rd = 1.18 inches

Capture Volume = 187,150 cubic feet of volume in pond
(31,192 = the increase in volume for deposition of solids)

Minimum Surface Area for the Filtration Basin

$$Af = \frac{WQV(L)}{k(h+L)t}$$

where:
Af = Minimum surface area for the filtration basin (square feet)
WQV = Water Quality Volume (cubic feet)
L = Thickness of sand bed (1.5 feet)
h = Average height of water above sand bed (feet)
t = Basin draw down time (2 days)
k = permeability of sand (3.5 ft/d for full sedimentation, 2 ft/d for partial sedimentation)

WQV = 187,150 cubic feet

h = 2.75 inches

Af = 16,513 square feet

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

1. Written construction notification should be provided to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information should include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No temporary aboveground hydrocarbon and hazardous substance storage tank system may be installed within 150 feet if a domestic, industrial, irrigation, or public water supply well.

4. Prior to commencing construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. Controls specified in the SWPPP section of the approved Edwards Aquifer Contributing Zone Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

5. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

6. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 %. A permanent stake must be provided that can indicate when the sediment occupies 50 % of the basin volume.

7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. All spoils (excavated material) generated from the project site and stored on-site must have proper E&S controls installed.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

10. The following records should be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

11. The holder of any approved Contributing Zone plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

1. any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved;

C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

D. any development of land previously identified in a contributing zone plan as undeveloped.

Austin Regional Office 1921 Cedar Bend, Suite 150 Austin, Texas 78758-5336 Phone (512) 339-2929 Fax (512) 339-3795 San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617

4/21/05

THE HOME DEPOT
BULVERDE, TEXAS

THE HOME DEPOT

WATER QUALITY POND CALCULATIONS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 03/28/05
FILE: G:\48\54\EXHIBITS\CC.DWG
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 500048-54.00

SHEET
C-5.4

Date: Apr 21, 2005, 8:16am User ID: ewarford
File: G:\048\53\04853WQP02.dwg

ATTACHMENT N

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN FOR HOME DEPOT-BUL VERDE, TX

The owner of the lot where a sedimentation/filtration basin is located is responsible for the inspection, maintenance, and repair of the water quality pond.

Sedimentation/Filtration Basin

Monthly: The vegetative growth shall be checked. Vegetation in the basin shall not exceed 18 inches in height.

Quarterly: The level of accumulated silt shall be checked. If depth of silt/pollutants exceeds 2 inches, it shall be removed and disposed of "properly".

The accumulation of pollutants/oils shall be checked. If the pollutants have significantly reduced the design capacity of the sand filter, the pollutants shall be removed.

The basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive. All debris and trash shall be removed every 3-6 months.

Annually: The basin shall be inspected for structural integrity and repaired if necessary.

Sand media shall be replaced once the integrity and effectiveness is not performing to design standards (i.e., 48 hour drawdown period, removal efficiency, foul odor, etc.).

Upon media replacement, a visual inspection shall be performed on all perforated discharge pipes on an as need basis.

After Rainfall: The basin shall be checked after each rainfall occurrence of 0.5 inches or more to ensure that it drains within 48 hours after it has reached its peak level. If it does not drain within this time, corrective maintenance will be accomplished.

Retrofit: Retrofit of the basins are not anticipated. Therefore no maintenance program is created.

HOME DEPOT U.S.A., INC.,
a Delaware corporation

By: ______________________
Jacob R. Pritcher, Jr., Director - Legal

11-19-04
Date

ATTACHMENT O

PILOT-SCALE FIELD TESTING PLAN

NOT APPLICABLE

PILOT-SCALE FIELD TESTING PLAN

A plan for pilot-scale field testing is not required since the TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

ATTACHMENT P

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

MEASURE FOR MINIMIZING SURFACE STREAM CONTAMINATION

The proposed site will capture the required volume, treat and release captured volume at a slow release. Overflow devices at the pond will divert the runoff to a downstream culvert.

AGENT AUTHORIZATION FORM

Agent Authorization Form

For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Jacob R. Pritcher, Jr.
Print Name

Director - Legal
Title - Owner/President/Other

of Home Depot U.S.A., Inc., a Delaware corporation
Corporation/Partnership/Entity Name

have authorized Coy D. Armstrong, P.E.
Print Name of Agent/Engineer

of Bury+Partners-SA, Inc.
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For applicants who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

HOME DEPOT U.S.A., INC.,
a Delaware corporation

By: ______________________________ 11/19/04
Jacob R. Pritcher, Jr., Director - Legal Date

THE STATE OF TEXAS §
§
COUNTY OF DALLAS §

BEFORE ME, the undersigned authority, on this day personally appeared Jacob R. Pritcher, Jr., Director-Legal of HOME DEPOT U.S.A., INC., a Delaware corporation, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledge to me that he executed same for the purpose and consideration therein expressed, and in the capacity therein stated.

GIVEN under my hand and seal of office on this 19 day of November, 2004.

Debra S. Broome
Notary Public, State of Texas

Debra S. Broome
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11-8-05

DEBRA S. BROOME
MY COMMISSION EXPIRES
November 8, 2005

CONTRIBUTING ZONE FEE APPLICATION FORM

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Contributing Zone Fee Application Form

NAME OF PROPOSED REGULATED ENTITY: The Home Depot – Bulverde, TX
REGULATED ENTITY LOCATION: SWQ- SH 46 & HWY 281
NAME OF CUSTOMER: Home Depot U.S.A., Inc.
CONTACT PERSON: Jacob R. Pritcher, Jr. PHONE: (972) 402-3800
(Please Print)

Customer Reference Number (if issued): CN 600240659 (nine digits)
Regulated Entity Reference Number (if issued): RN ________ (nine digits)

AUSTIN REGIONAL OFFICE (3373)
☐ Hays
☐ Travis
☐ Williamson

SAN ANTONIO REGIONAL OFFICE (3362)
☐ Bexar
X Comal
☐ Kinney
☐ Medina
☐ Uvalde

APPLICATION FEES MUST BE PAID BY CHECK, CERTIFIED CHECK, OR MONEY ORDER, PAYABLE TO THE Texas Commission on Environmental Quality. YOUR CANCELED CHECK WILL SERVE AS YOUR RECEIPT. **THIS FORM MUST BE SUBMITTED WITH YOUR FEE PAYMENT. THIS PAYMENT IS BEING SUBMITTED TO (CHECK ONE):**

X **SAN ANTONIO REGIONAL OFFICE**

☐ **AUSTIN REGIONAL OFFICE**

☐ **Mailed to TCEQ:**
TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ **Overnight Delivery to TCEQ:**
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

Check one:

X **Contributing Zone Plan - Fee Due $250**

☐ **Modification of a Previously Approved Contributing Zone Plan - Fee Due $250**

☐ **Extension of Time Request - Fee Due $100**

Signature

11/23/04
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

TCEQ CORE DATA FORM

TCEQ Use Only

TCEQ Core Data Form

If you have questions on how to fill out this form or about our Central Registry, please contact us at 512-239-5175.

Individuals are entitled to request and review their personal information that the agency gathers on its forms.
They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

SECTION I: General Information

1. Reason for Submission *Example: new wastewater permit; IHW registration; change in customer information; etc.*

New Contributing Zone Plan

2. Attachments				**Describe Any Attachments:** *(ex: Title V Application, Waste Transporter Application, etc.)*
	YES	X	NO	

3. Customer Reference Number-*if issued*				**4. Regulated Entity Reference Number-*if issued***		
CN	600240659	*(9 digits)*		RN		*(9 digits)*

SECTION II: Customer Information

5. Customer Role *(Proposed or Actual)* -- As It Relates to the Regulated Entity Listed on This Form

Please check one of the following:		Owner		Operator	X	Owner and Operator
Occupational Licensee		Volunteer Cleanup Applicant				Other
TCEQ Use Only		**Superfund**		**PST**		**Respondent**

6. General Customer Information

	New Customer		Change to Customer Information
	Change in Regulated Entity Ownership	X	No Change *

***If "No Change" and Section I is complete, skip to Section III - Regulated Entity Information.**

7. Type of Customer:			Individual		Sole Proprietorship - D.B.A.
	Partnership		Corporation		Federal Government
	State Government		County Government		City Government
	Other Government			Other:	

8. Customer Name *(If an individual, please print last name first)*	*If new name, enter previous name:*

9. Mailing Address:				
	City	State	ZIP	ZIP + 4

10. Country Mailing Information *if outside USA*	**11. E-Mail Address *if applicable***

12. Telephone Number	**13. Extension or Code**	**14. Fax Number *if applicable***

15. Federal Tax ID *(9 digits)*	**16. State Franchise Tax ID Number** *if applicable*	**17. DUNS Number** *if applicable (9 digits)*

18. Number of Employees										**19. Independently Owned and Operated?**		
	0-20		21-100		101-250		251-500		501 and higher		Yes	No

SECTION III: Regulated Entity Information

20. General Regulated Entity Information

X	New Regulated Entity		Change to Regulated Entity Information		No Change*

*If "No Change" and Section I is complete, skip to Section IV - Preparer Information.

21. Regulated Entity Name *(If an individual, please print last name first)*				
The Home Depot – Bulverde, TX				
22. Street Address (No PO Boxes)				
	City	State	ZIP	ZIP + 4
23. Mailing Address				
	City	State	ZIP	ZIP + 4
24. E-Mail Address:				

25. Telephone Number	**26. Extension or Code**	**27. Fax Number** ***if applicable***

28. Primary SIC Code (4 digits)	**29. Secondary SIC Code** (4 digits)	**30. Primary NAICS Code** (5 or 6 digits)	**31. Secondary NAICS Code** (5 or 6 digits)
5211	**5261**		

32. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description)

Home improvement warehouse

Questions 33 - 37 address geographic location. Please refer to the instructions for applicability.

33. County	**Comal**

34. Description of Physical Location

SWQ- SH 46 & HWY 281

35. Nearest City	**State**	**Nearest Zip**
Bulverde	**TX**	

36. Latitude (N)			***37. Longitude (W)***		
Degrees	***Minutes***	***Seconds***	***Degrees***	***Minutes***	***Seconds***
29	47	36.63	-98	25	28.76

38. TCEQ Programs In Which This Regulated Entity Participates *Not all programs have been listed. Please add to this list as needed. If you don't know or are unsure, please mark "Unknown".* If you know a permit or registration # for this entity, please write it below the program."

	Animal Feeding Operation		Petroleum Storage Tank		Water Rights
	Title V - Air		Wastewater Permit	X	Water Quality
	Industrial & Hazardous Waste		Water Districts		
	Municipal Solid Waste		Water Utilities		Unknown
	New Source Review - Air		Licensing - TYPE(s)		

Section IV: Preparer Information

39. Name **Bury+Partners-SA, Inc. c/o Coy D. Armstrong, P.E.**		**40. Title** **Project Manager**
41. Telephone Number **210/525-9090**	**42. Extension or Code**	**43. Fax Number** ***if applicable*** **210/525-0529**
44. E-mail Address:	**carmstrong@burypartners.com**	

RECEIVED
JUL 1 1 2005
COUNTY ENGINEER

"RECEIVED TCEQ"
SAN ANTONIO
REGION

2005 JUL -7 PM 3:48

CONTRIBUTING ZONE PLAN

FOR

HOME DEPOT

SH 46 and Highway 281
Bulverde, Texas

Prepared for:

Home Depot U.S.A., Inc.
2800 Forest Lane
Dallas, Texas 75234

April 2005
(Revised July 2005)

Bury+Partners
ENGINEERING SOLUTIONS

CONTRIBUTING ZONE PLAN

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(Revised July 2005)

I:\Contributing Zones\Home Depot\048-053\April 2005 Rev\Flysheet.doc.hs

Bury+Partners
ENGINEERING SOLUTIONS

July 7, 2005

Mr. John Mauser
Texas Commission on Environmental Quality
Region #13
14250 Judson Road
San Antonio, Texas 78233

Re: Home Depot – Bulverde, Texas
Contributing Zone Plan

Dear Mr. Mauser:

Please find attached five (5) copies (one original and four copies) of the Home Depot – Bulverde, Texas Contributing Zone Plan. This plan has been prepared to be consistent with the Texas Commission on Environmental Quality (30 TAC 213) and current policies for development over the Edwards Aquifer Contributing Zone.

This Contributing Zone Plan applies to a 53 acre site identified as the limits of the project. Please review the plan information for the items it is intended to address, and if acceptable provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($250) and fee application have been previously submitted. If you have any questions regarding this information, please call our office at 210/525-9090.

Sincerely,

Coy D. Armstrong, P.E.
Project Manager

I:\Contributing Zones\Home Depot\048-053\April 2005 Rev\070705 Mauser.doc.hs

BURY+PARTNERS-SA, INC.
10000 San Pedro Avenue, Suite 100
San Antonio, Texas 78216

PHONE (210) 525-9090
FAX (210) 525-0529

www.burypartners.com

Austin • Dallas • Houston • San Antonio • Temple, Texas
Fairfax • Warrenton • Williamsburg, Virginia

EXECUTIVE SUMMARY

The proposed improvements addressed by this CZP are for an approximate 53 acre tract for a Home Depot, 44-foot wide public road to be dedicated to the City of Bulverde and additional future commercial use not identified at this time. Because the site lies on top of a hill, the site drains both to the north and south. Two basins are proposed to treat the north and south drainage areas.

PROJECT DESCRIPTION

The proposed development will consist of a ± 102,500 S.F. Home Depot store, public road and other commercial development. The project is located within the limits of the City of Bulverde. Potable water will be supplied by the City of Bulverde.

Approximately 1000 gallons per day (average) of domestic wastewater is estimated to be generated by Home Depot. It will be disposed of by a septic tank with a leach field.

The proposed development will consist of approximately 90% of impervious cover, which includes rooftops, parking lots, driveways and sidewalks. Two (2) water quality ponds are proposed to capture and treat runoff from the site and any additional runoff will bypass the pond and outfall into a downstream detention pond. The north pond treats the Home Depot store, the north portion of the proposed public road, and a portion of the future retail development as shown in the proposed drainage area map. The south pond treats the south portion of the proposed public road, and the remaining portion of the future retail development as shown in the proposed drainage area map.

CONTRIBUTING ZONE PLAN APPLICATION

Contributing Zone Plan Application

for Regulated Activities
on the Contributing Zone to the Edwards Aquifer
and Relating to 30 TAC §213.24(1), Effective June 1, 1999

Regulated Entity Name: The Home Depot – Bulverde, TX
County: Comal Stream Basin: Cibolo Creek

1. X Regulated activities on this site will disturb at least 5 acres.
   N/A Regulated activities on this site will disturb less than 5 acres and are part of a larger common plan of development or sale with the potential to disturb cumulatively five or more acres.

2. Customer (Applicant):

   Contact Person: Jacob R. Pritcher, Jr.
   Entity: Home Depot U.S.A., Inc.
   Mailing Address: 2800 Forest Lane
   City, State: Dallas, Texas Zip: 75234
   Telephone: (972) 402-3800 FAX:

   Agent/Representative (If any):

   Contact Person: Coy D. Armstrong, P.E.
   Title: Project Manager
   Entity: Bury+Partners-SA, Inc.
   Mailing Address: 10000 San Pedro, STE 100
   City, State: San Antonio, Texas Zip: 78216
   Telephone: 210/525-9090 FAX: 210/525-0529

3. X This project is inside the city limits of Bulverde.
   N/A This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of ____________________.
   N/A This project is not located within any city's limits or ETJ.

4. The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

   SWQ- SH 46 & HWY 281, Bulverde, TX

5. X **ATTACHMENT A - Road Map.** A road map showing directions to and the location of the project site is found as at the end of this form.

6. X **ATTACHMENT B - USGS Quadrangle Map.** A copy of the USGS Quadrangle Map (Scale: 1" = 24,000') is found at the end of this form. The map(s) clearly shows:
   X Project site boundaries.
   X USGS Quadrangle Name(s).

7. X **ATTACHMENT C - Project Narrative.** A detailed narrative description of the proposed project is found at the end of this form.

8. Existing project site conditions are noted below:

__ Existing commercial site
__ Existing industrial site
__ Existing residential site
__ Existing paved and/or unpaved roads
__ Undeveloped (Cleared)
X Undeveloped (Undisturbed/Uncleared)
__ Other:

PROJECT INFORMATION

9. The type of project is:

__ Residential: # of Lots: ________
__ Residential: # of Living Unit Equivalents: ____________
X Commercial
__ Industrial
__ Other: ______________

10. Total project area (size of site): 53 Acres
Total disturbed area: 53 Acres

11. Projected population: N/A

12. The amount and type of impervious cover expected after construction is complete is shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops		÷ 43,560 =	
Parking		÷ 43,560 =	
Other paved surfaces		÷ 43,560 =	
Total Impervious Cover	2,078,000	÷ 43,560 =	47.7
Total Impervious Cover ÷ Total Acreage x 100 =			90%

13. X **ATTACHMENT D - Factors Affecting Surface Water Quality.** A description of factors that could affect surface water quality is found as at the end of this form. If applicable, this should included the location and description of any discharge associated with industrial activity other than construction.

14. X Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY
Complete questions 15-20 if this application is exclusively for a road project.

15. Type of project:

__ TXDOT road project.
__ County road or roads built to county specifications.
__ City thoroughfare or roads to be dedicated to a municipality.
__ Street or road providing access to private driveways.

16. Type of pavement or road surface to be used:

___ Concrete
___ Asphaltic concrete pavement
___ Other: ____________________

17. Length of Right of Way (R.O.W.): ______ feet.
Width of R.O.W.: ______ feet.
L x W = ______ $\text{Ft}^2 \div 43{,}560\ \text{Ft}^2/\text{Acre}$ = ______ acres.

18. Length of pavement area: ______ feet.
Width of pavement area: ______ feet.
L x W = ______ $\text{Ft}^2 \div 43{,}560\ \text{Ft}^2/\text{Acre}$ = ______ acres.
Pavement area ______ acres ÷ R.O.W. area ______ acres x 100 = ____% impervious cover.

19. ___ A rest stop will be included in this project.
___ A rest stop will **not** be included in this project.

20. ___ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

21. X **ATTACHMENT E - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is found at the end of this form. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. The runoff coefficient of the site for both pre-construction and post-construction conditions is included.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

22. Wastewater will be disposed of by:

X On-Site Sewage Facility (OSSF/Septic Tank):
ATTACHMENT F - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's written approval is provided at the end of this form. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities, or it identifies those areas that are not suitable for the use of private sewage facilities. The system will be designed by a licensed professional engineer or a registered sanitarian and installed by a licensed installer in compliance with 30 TAC §285.

N/A Sewage Collection System (Sewer Lines):
Wastewater is to be disposed of by conveyance to the _______________ (name) treatment plant for treatment and disposal. The treatment facility is :
___ existing.
___ proposed.

N/A Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

FOR PERMANENT ABOVEGROUND STORAGE TANKS (ASTs) > 500 GALLONS

Complete questions 23-29 if this project includes the installation of AST(s) with volume(s) greater than 500 gallons.

23. Tanks and substance stored:

AST Number	Size (Gallons)	Substance to be Stored	Tank Material
1			
2			
3			
4			
5			
Total		x 1.5 =	gallons

24. N/A The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

N/A **ATTACHMENT G - Alternative Secondary Containment Methods.** Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are found at the end of this form.

25. Inside dimensions and capacity of containment structure(s):

Length (L) (Ft.)	Width (W) (Ft.)	Height (H) (Ft.)	L x W x H = (Ft^3)	Gallons
Total				

26. N/A All piping, hoses, and dispensers will be located inside the containment structure.

N/A Some of the piping to dispensers or equipment will extend outside the containment structure.

N/A The piping will be aboveground

N/A The piping will be underground

27. N/A The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of ______________________.

28. **ATTACHMENT H - AST Containment Structure Drawings.** A scaled drawing of the containment structure is found at the end of this form that shows the following:

N/A Interior dimensions (length, width, depth and wall and floor thickness).
N/A Internal drainage to a point convenient for the collection of any spillage.
N/A Tanks clearly labeled
N/A Piping clearly labeled
N/A Dispenser clearly labeled

29. Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

N/A In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.
N/A In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

SITE PLAN

Items 30 through 41 must be included on the Site Plan.

30. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 100 '.

31. 100-year floodplain boundaries

N/A Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
X No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):

32. X The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
N/A The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

33. X A drainage plan showing all paths of drainage from the site to surface streams.

34. X The drainage patterns and approximate slopes anticipated after major grading activities.

35. X Areas of soil disturbance and areas which will not be disturbed.

36. X Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

37. X Locations where soil stabilization practices are expected to occur.

38. N/A Surface waters (including wetlands).

39. N/A Locations where stormwater discharges to surface water.
X There will be no discharges to surface water.

40. N/A Temporary aboveground storage tank facilities.
X Temporary aboveground storage tank facilities will not be located on this site.

41. N/A Permanent aboveground storage tank facilities.
X Permanent aboveground storage tank facilities will not be located on this site.

Permanent best management practices (BMPs) and measures that will be used during and after construction is completed.

42. X Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

43. X These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
N/A A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below

44. X Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

45. N/A Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

N/A This site will be used for low density single-family residential development and has 20% or less impervious cover.
N/A This site will be used for low density single-family residential development but has more than 20% impervious cover.
X This site will not be used for low density single-family residential development.

46. N/A The executive director may waive the requirement for other permanent BMPs for multi-

family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

N/A **ATTACHMENT I - 20% or Less Impervious Cover Waiver.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.

N/A This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

X This site will not be used for multi-family residential developments, schools, or small business sites.

47. **ATTACHMENT J - BMPs for Upgradient Stormwater.**

N/A A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is provided as **ATTACHMENT J** at the end of this form.

X If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT J** at the end of this form.

X If permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT J** at the end of this form.

48. **ATTACHMENT K - BMPs for On-site Stormwater.**

X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is provided as **ATTACHMENT K** at the end of this form.

N/A If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT K** at the end of this form.

49. N/A **ATTACHMENT L - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams is provided at the end of this form.

50. X **ATTACHMENT M - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ Construction Notes, all proposed structural measures, and appropriate details must be shown on the construction plans.

51. X **ATTACHMENT N - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by

the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

52. X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

N/A Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

N/A **ATTACHMENT O - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

53. N/A **ATTACHMENT P - Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is provided at the end of this form. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity which increase erosion that results in water quality degradation.

Responsibility for maintenance of permanent BMPs and measures after construction is complete.

54. X The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

55. X A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

ADMINISTRATIVE INFORMATION

56. X One (1) original and three (3) copies of the complete application has been provided.

57. X Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

58. X The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **CONTRIBUTING ZONE PLAN APPLICATION** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Coy D. Armstrong
Print Name of Customer/[✓ Agent]

Signature of Customer/[✓ Agent]

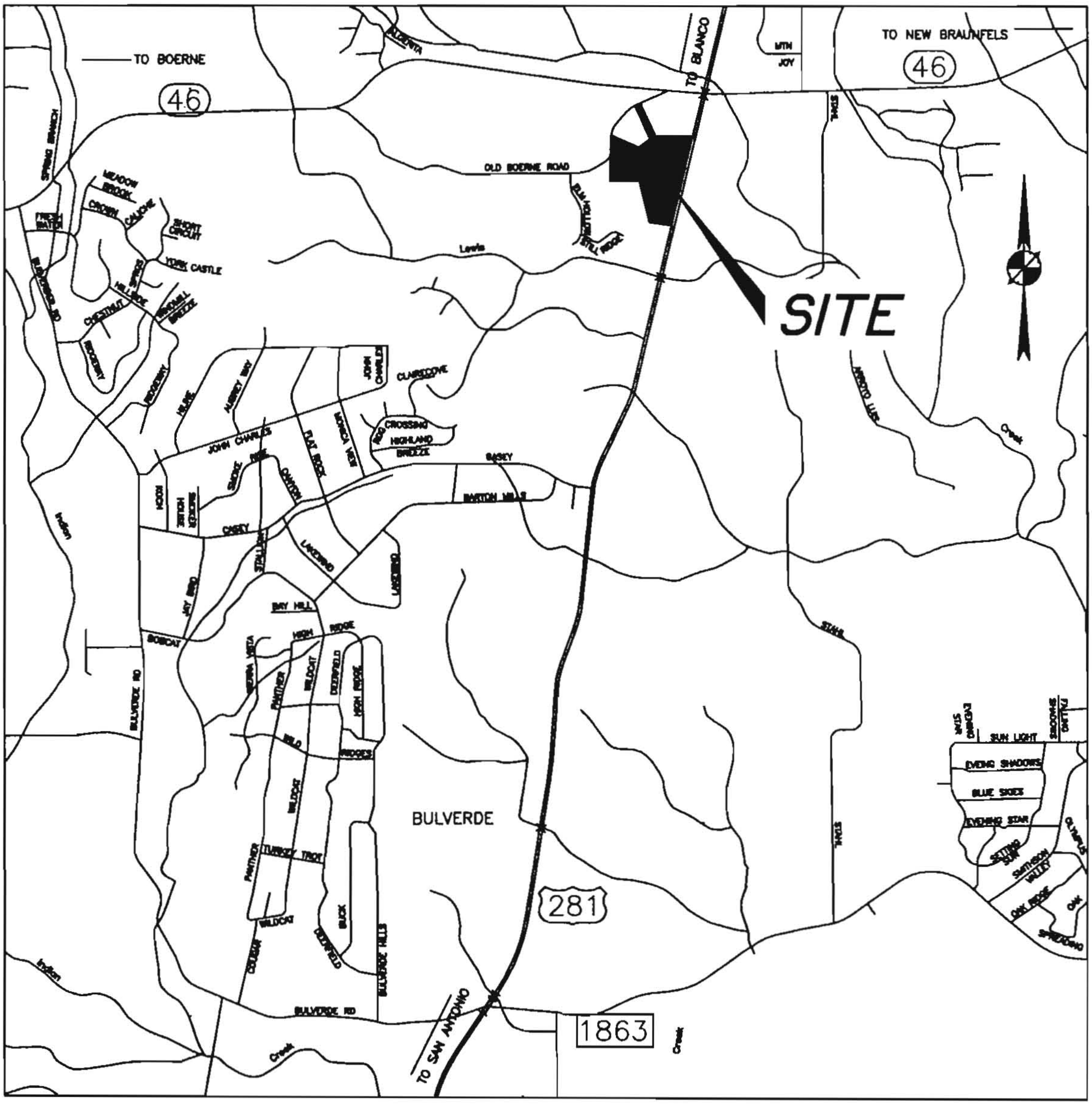
7/7/05
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

ATTACHMENT A

ROAD MAP



VICINITY MAP

N.T.S.

BULVERDE, TEXAS

SCALE: NTS

DRAWN: VEL

DATE: 11/19/04

SHEET 1 OF 1

HOME DEPOT

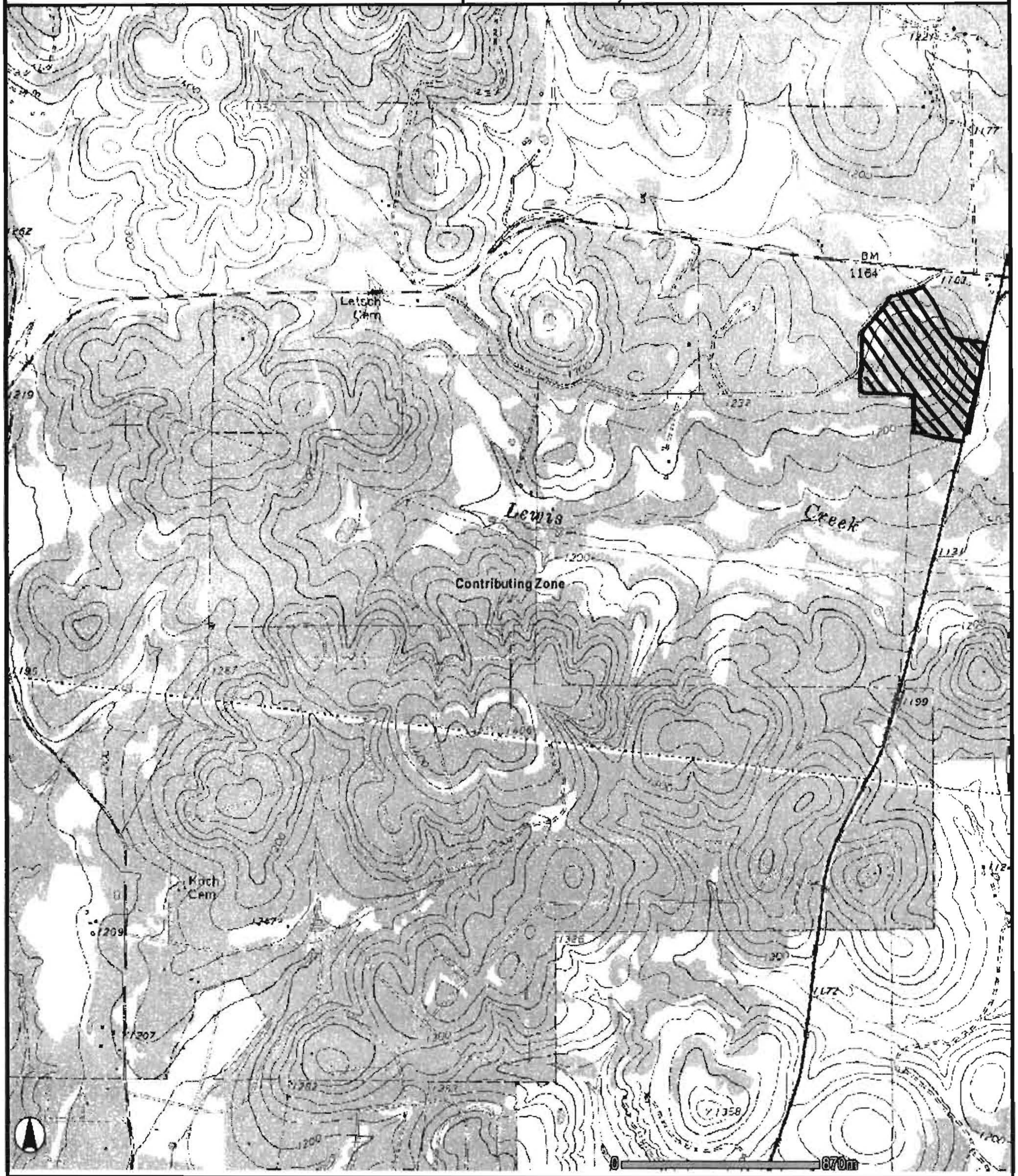
U.S. 281 @ S.H. 46
BULVERDE, TEXAS

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

ATTACHMENT B

USGS/EDWARDS AQUIFER RECHARGE ZONE MAP

Home Depot - Bulverde, TX



USGS Quad Map - 1:24,000

ATTACHMENT C

PROJECT NARRATIVE

PROJECT NARRATIVE

The proposed project will consist of a ± 102,500 S.F. Home Depot store, 44-foot wide public road to be dedicated to the City of Bulverde and other commercial development on a 53 acre tract fronting Highway 281 and Old Boerne Road. The site will sheet flow to various inlets and be conveyed via underground storm sewer to a proposed water quality pond. The water quality ponds consists of sedimentation and sand filtration basins. Overflow will be directed to the adjacent detention pond.

Discharge of the water quality ponds will be released into the right-of-way for Old Boerne Road and Highway 281.

ATTACHMENT D

FACTORS AFFECTING SURFACE WATER QUALITY

FACTORS AFFECTING WATER QUALITY

Potential Source: Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance when possible will be performed within the construction staging area or at a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures : Trash containers will be placed throughout the site to encourage proper trash disposal.

Potential Source: Construction debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

ATTACHMENT E

VOLUME & CHARACTER OF STORM WATER

VOLUME AND CHARACTER OF STORM WATER

The proposed site will sheet flow to various inlets and be conveyed via underground storm sewer to a proposed water quality pond. Please refer to the proposed drainage area map that has been attached to this document.

The north pond will treat ±22 acres of developed land. The existing drainage area consists of ±19 acres. Using a C-value of 0.47, the 100-year event flow is 47 cfs. For the developed land, using a C-value of 0.91, the 100-year flow is 254 cfs. Calculations for the water quality pond are shown on the calculations and General Notes sheet.

The south pond will treat ±10 acres of developed land. The existing drainage consists of ±18 acres. Using a C-value 0.52, the 100-year event flow is 60 cfs. For the developed land, using a C-value of 0.91, the 100-year flow is 97 cfs.

ATTACHMENT F

SUITABILITY LETTER FROM AUTHORIZED AGENT

Comal County
OFFICE OF COMAL COUNTY ENGINEER

April 14, 2005

Terrance and Kathleen Ciliske
c/o Bury + Partners, S.A., Inc.
10000 San Pedro, Ste. 100
San Antonio, TX 78216

Re: Proposed plat of the VACATE AND REPLAT OF LOTS 5 AND 6, WARREN HILL, WITH THE ADDITION OF THE REMAINING PORTION OF THAT CERTAIN 78.104 ACRE TRACT RECORDED IN DOCUMENT NO. 9706003738, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS, ESTABLISHING BULVERDE CROSSING, within Comal County, Texas

Dear Property Owner(s):

We have completed the review of the referenced for the recommendation for private sewage facilities and have found the proposed subdivision to be approved with the conditions that individual septic systems permits shall be required for the lots within this subdivision.

Please be advised that these individual permits will be required to meet 30 TAC 285, On-Site Sewage Facilities Rules of the Texas Natural Resource Conservation Commission.

Should you have any questions, please feel free to contact us.

Sincerely,

Thomas H. Hornseth, P.E.
Comal County Engineer

RECEIVED
APR 19 2005
By:

195 David Jonas Drive • New Braunfels, Texas 78130 • (830) 608-2090 FAX (830) 608-2009

ATTACHMENT G

ALTERNATIVE SECONDARY CONTAINMENT METHODS

NOT APPLICABLE

ALTERNATIVE SECONDARY CONTAINMENT METHODS

Alternative secondary containment is not required for this project. There are no proposed storage tanks with the exception of a possible water tank on site.

ATTACHMENT H

AST CONTAINMENT METHODS

NOT APPLICABLE

AST CONTAINMENT METHODS

AST containment methods are not required for this project. There are no proposed storage tanks, with the exception of a possible water tank on site.

ATTACHMENT I

20% OR LESS IMPERVIOUS COVER WAIVER

NOT APPLICABLE

20% OR LESS IMPERVIOUS COVER WAIVER

A 20% or Less Impervious Cover Waiver is not required for this project. The proposed site will be a commercial development.

ATTACHMENT J

BMP's FOR UPGRADIENT STORM WATER

NOT APPLICABLE

BMPs FOR UPGRADIENT STORM WATER

The site is adjacent to public Right-Of-Way along the north and east sides of the property and undeveloped property to the west and south. The site is higher than these adjacent roads.

In summary, upgradient storm water is not anticipated for this project.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

BMP's FOR ON-SITE STORM WATER

The best management practice implemented for this site will be a sand filter system. Two (2) filtration basins will be constructed onsite to prevent pollution of surface groundwater. These basins will be earthen and will drain through an 8" PVC pipe into the corresponding detention pond. Basin details for both the north and south ponds are shown on the Water Quality Pond Details sheet.

ATTACHMENT L

BMP's FOR SURFACE STREAMS

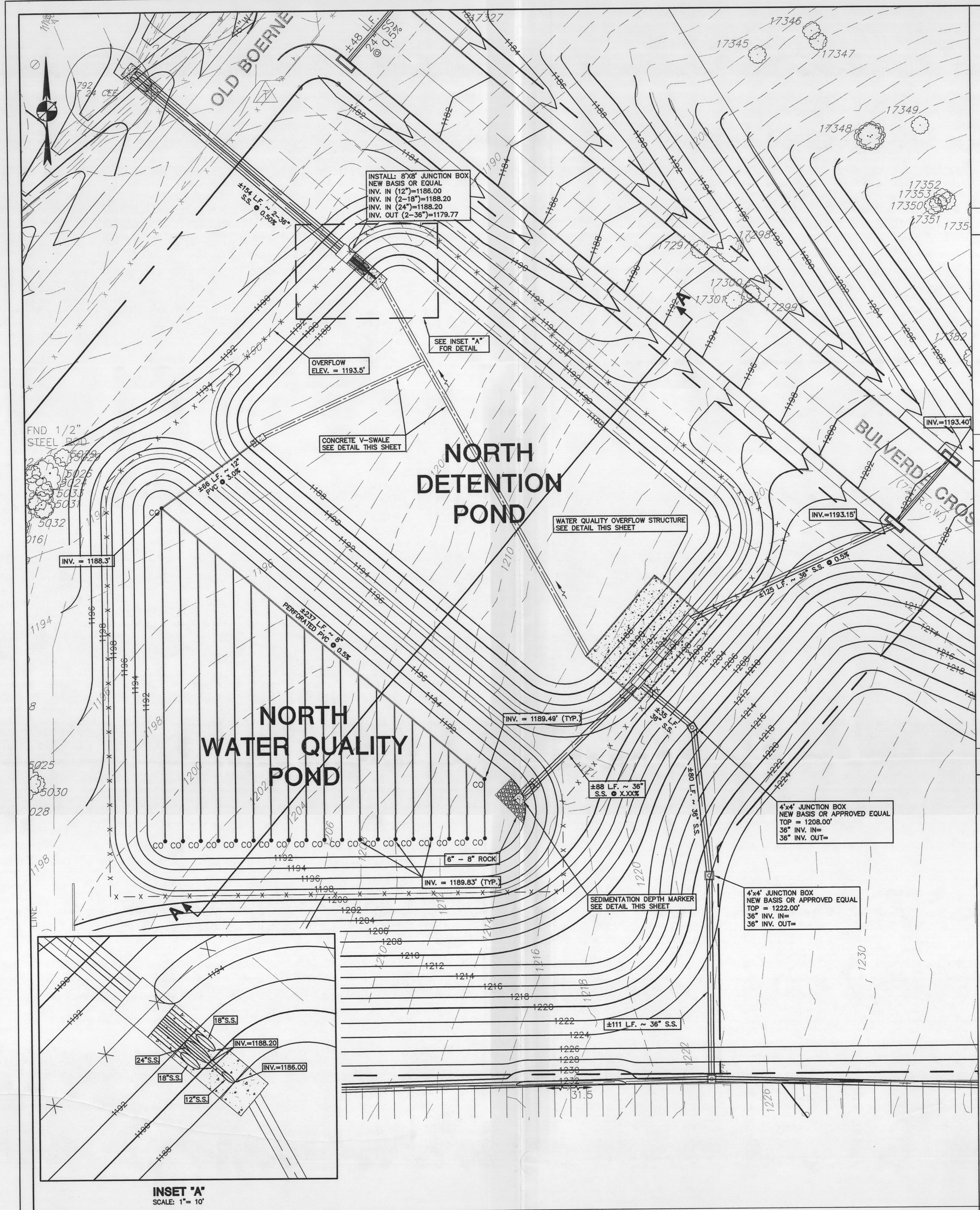
NOT APPLICABLE

BMP's FOR SURFACE STREAMS

The proposed site does not have any surface streams nor abuts any surface stream. Site runoff will be treated prior to release into the right-of-way.

ATTACHMENT M

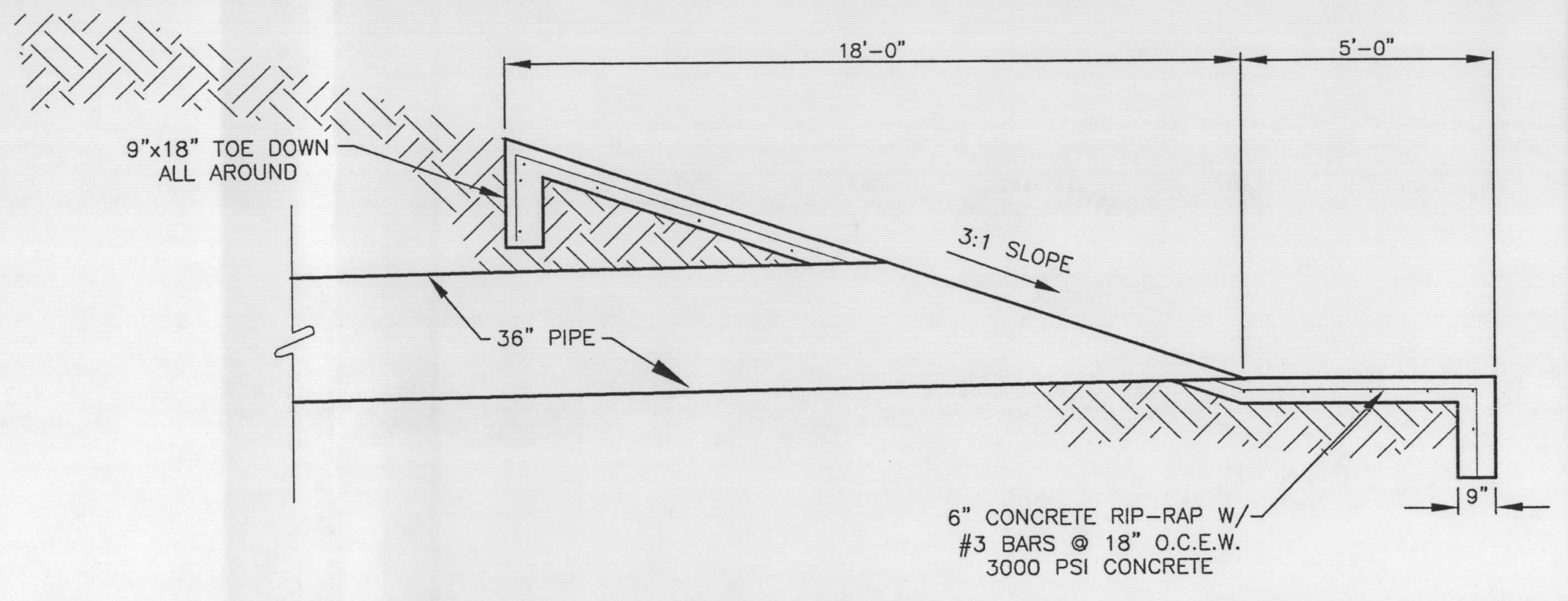
CONSTRUCTION PLANS



INSET "A"
SCALE: 1"= 10'

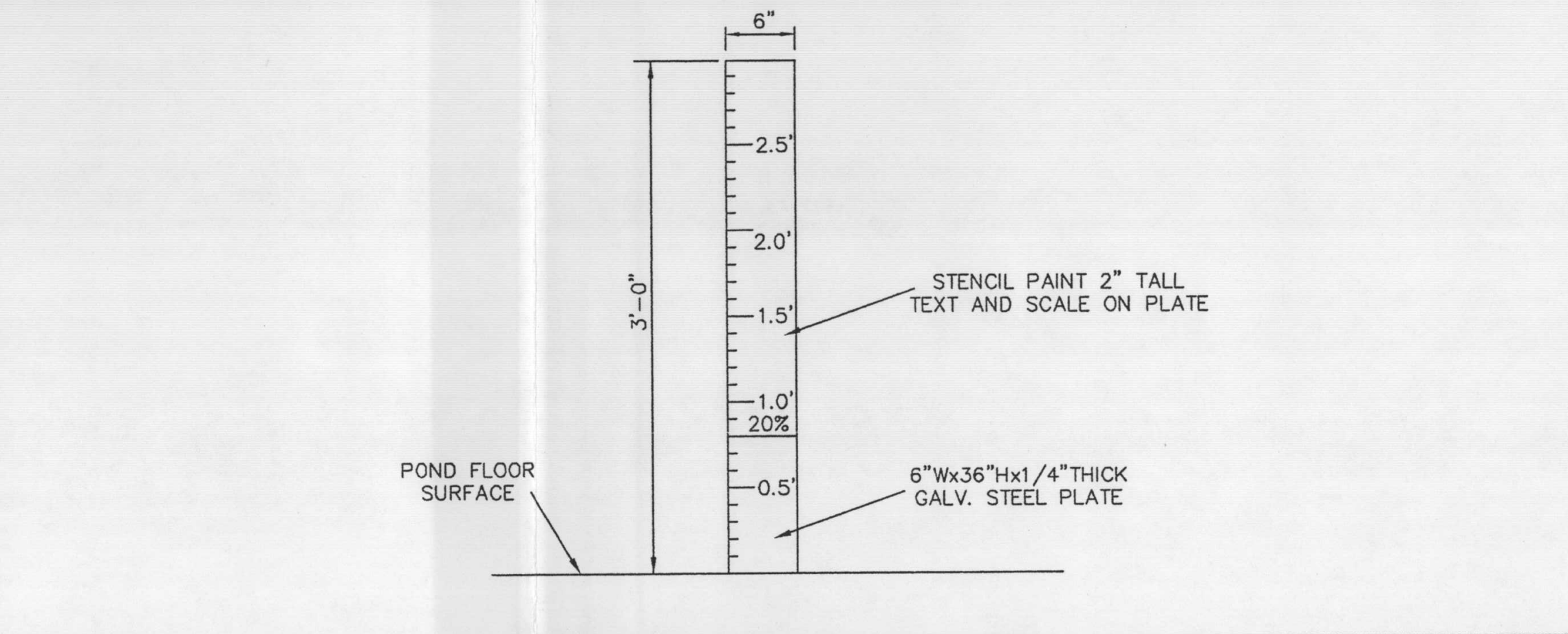
C5.2.1

WATER QUALITY POND - PLAN VIEW
SCALE: 1"= 30'



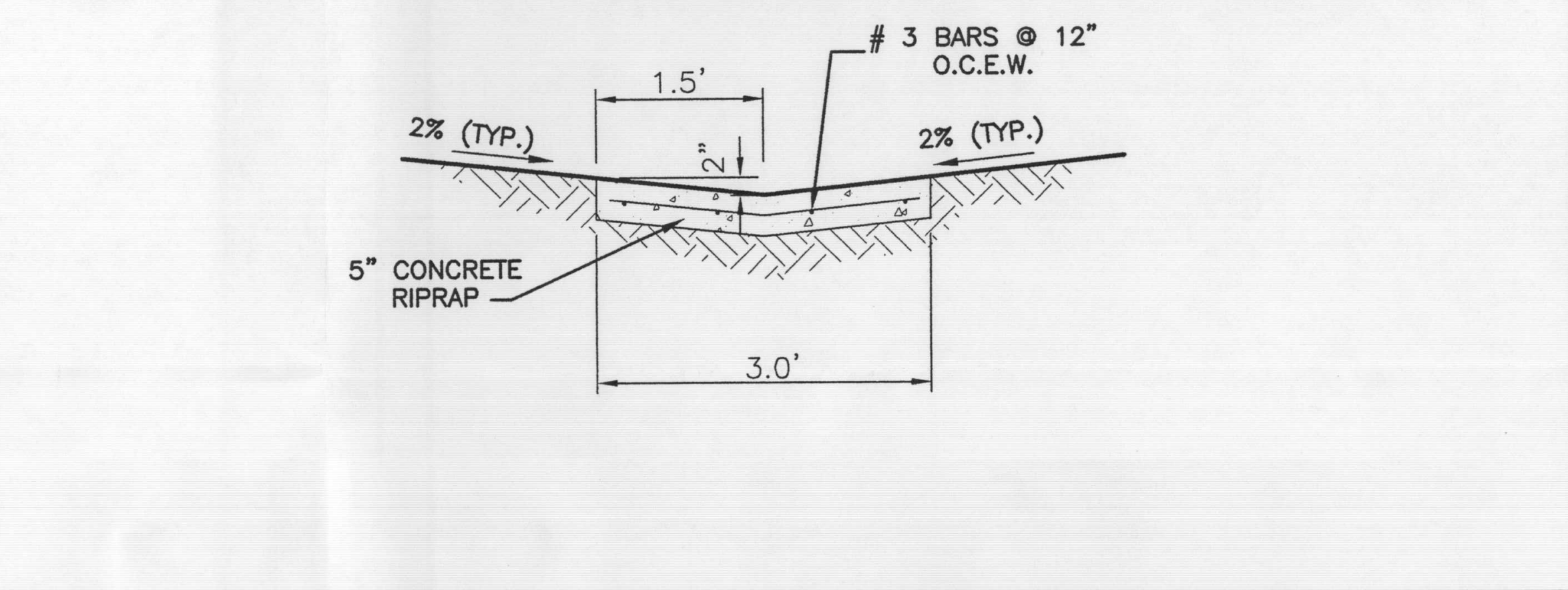
C5.2.2

RIP-RAP DETAIL
SCALE: N.T.S.



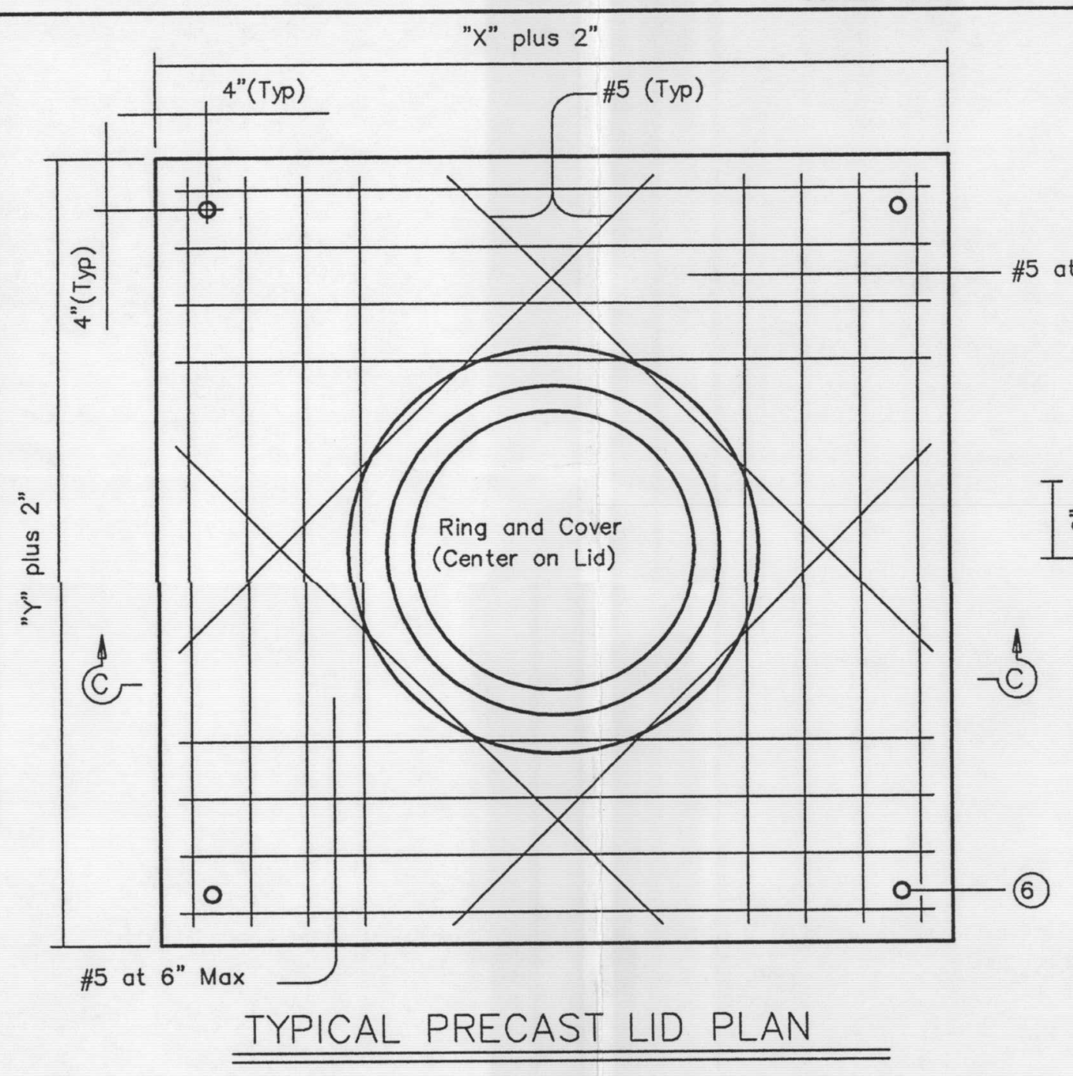
C5.2.3

SEDIMENT DEPTH MARKER
SCALE: N.T.S.

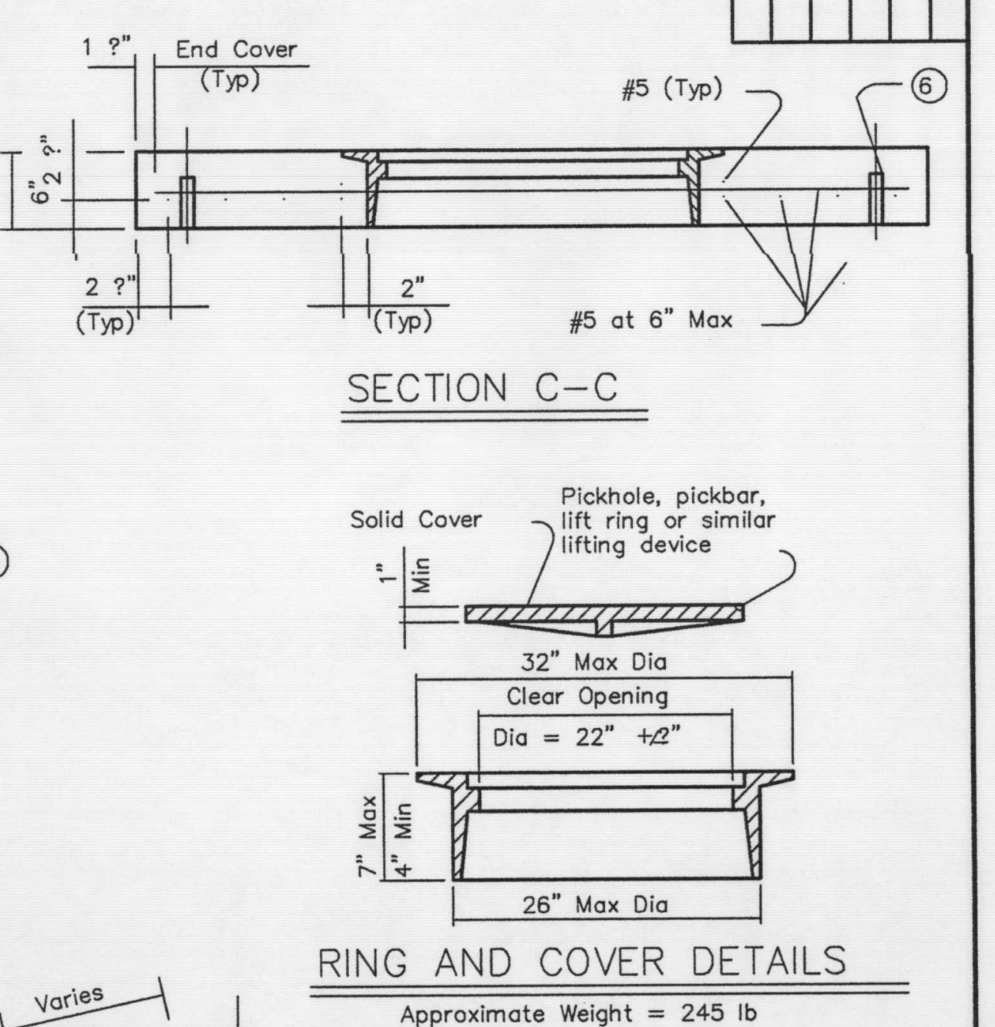


C5.2.4

CONCRETE V- SWALE
SCALE: N.T.S.

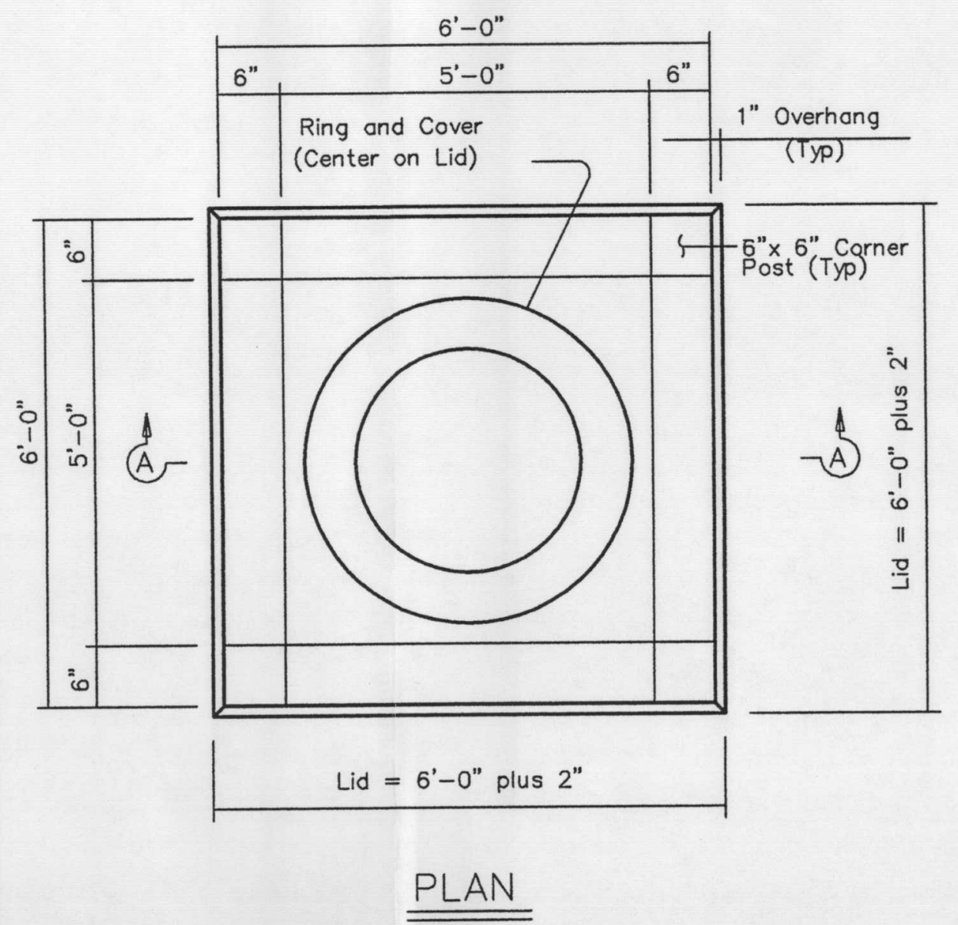


TYPICAL PRECAST LID PLAN

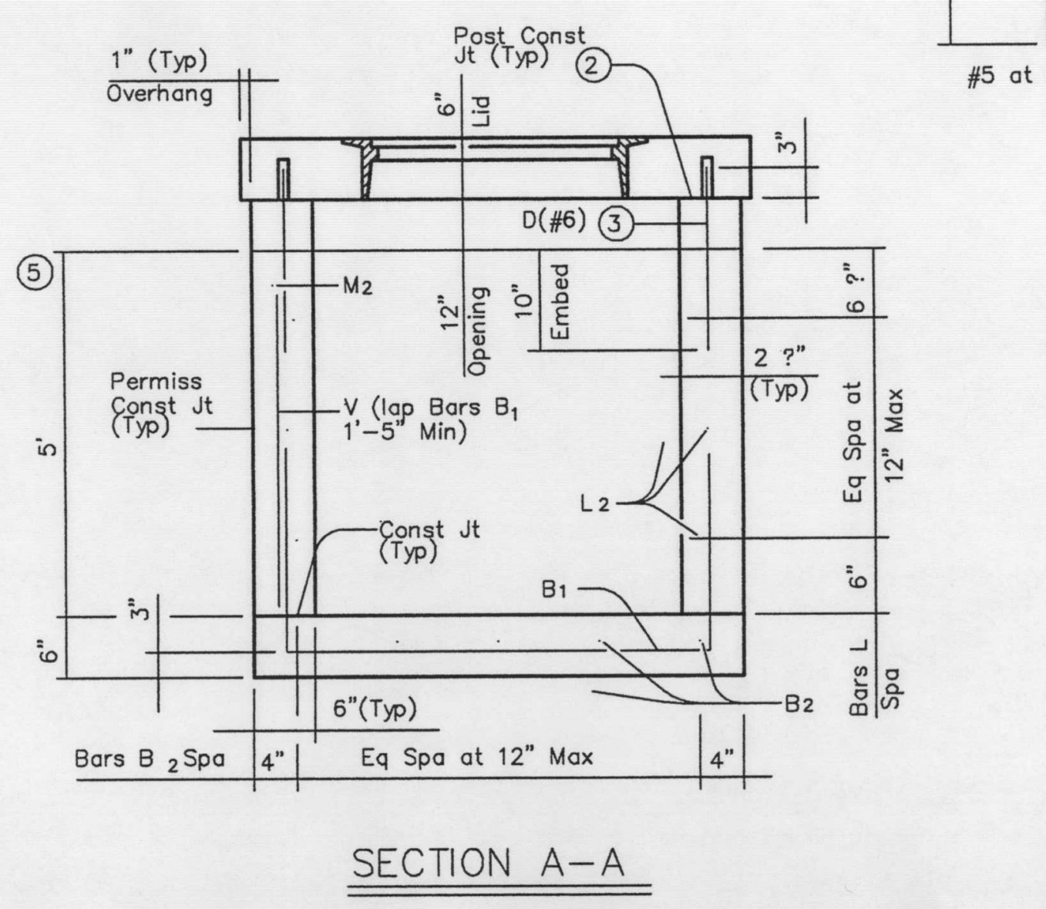


SECTION C-C

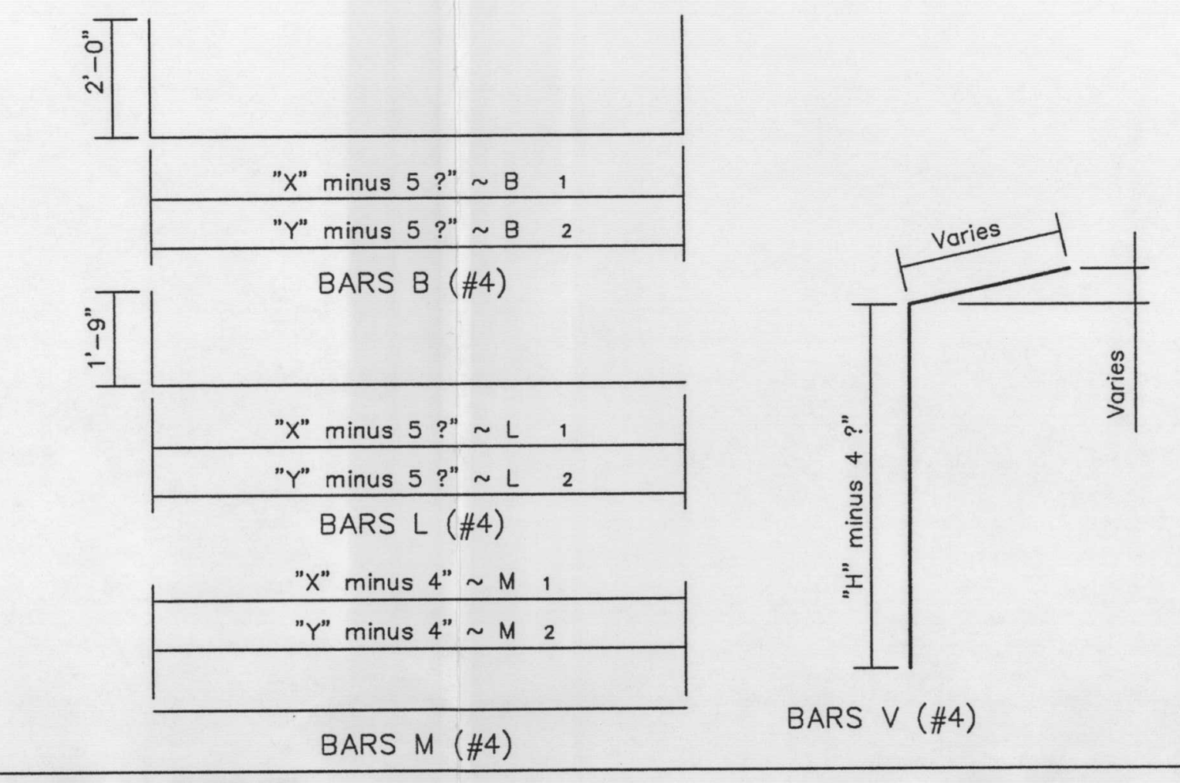
RING AND COVER DETAILS
Approximate Weight = 245 lb



PLAN



SECTION A-A



① May be changed as directed by the Engineer.

② Place layer of grout between lid and corner posts to provide stable seating of lid.

③ Center Dowels D in corner posts. (Typ)

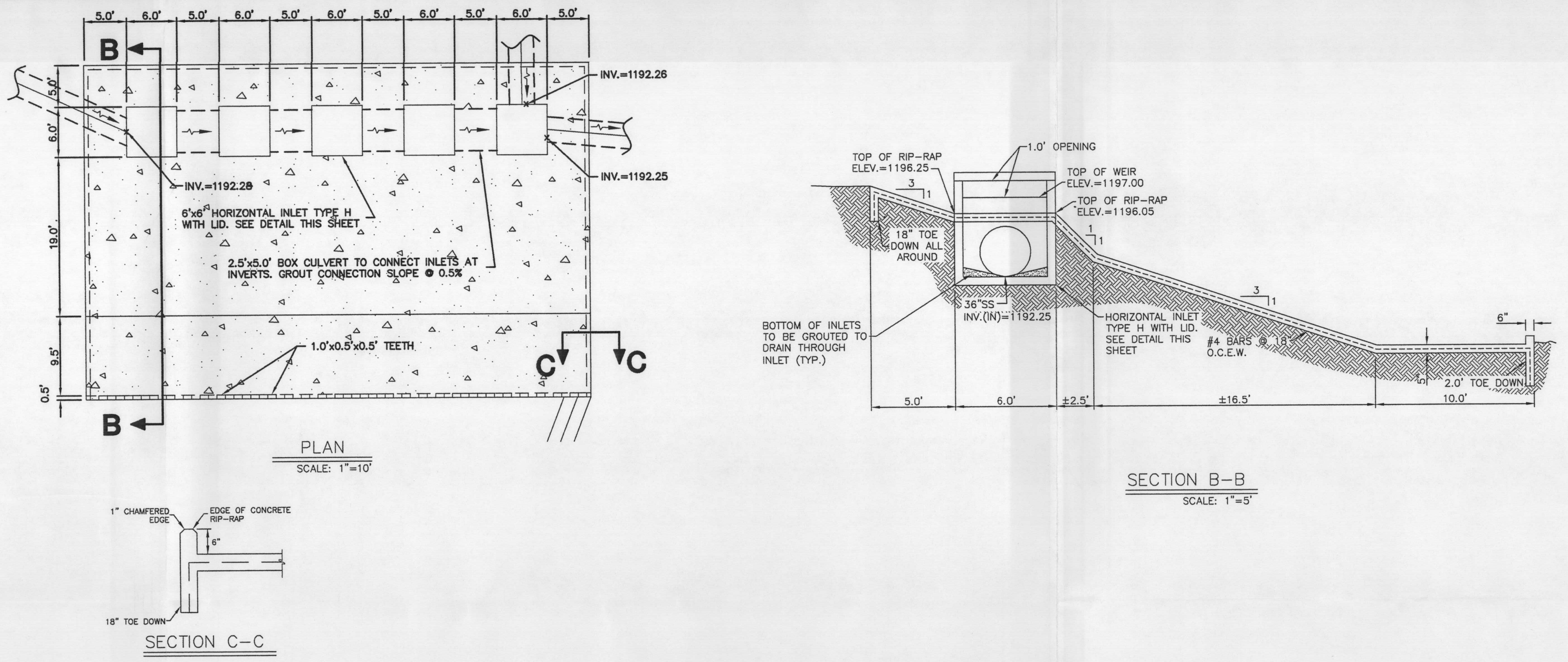
④ Not Used

⑤ Not Used

⑥ Form holes in lid for Dowels D using 1" Dia x 4" PVC Pipe (SCH 40) (Typ)

C5.2.5

HORIZONTAL INLET TYPE H DETAIL
SCALE: N.T.S.



C5.2.6

WATER QUALITY OVERFLOW STRUCTURE DETAIL
SCALE: VARIES

FOR SEDIMENTATION AND FILTRATION PONDS

IMPERMEABLE LINERS MAY BE EITHER CLAY, CONCRETE OR GEOMEMBRANE. IF GEOMEMBRANE IS USED, SUITABLE GEOTEXTILE FABRIC SHALL BE PLACED ON THE TOP AND BOTTOM OF THE MEMBRANE FOR PUNCTURE PROTECTION. CLAY LINERS SHALL MEET THE FOLLOWING SPECIFICATIONS:

TABLET 1-7

CLAY LINER SPECIFICATION

PROPERTY	TEST METHOD	UNIT	SPECS.
PERMEABILITY	ASTM D-2434	Cm/Sec	1×10^{-6}
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D-422	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D-2216	%	95% OF STANDARD PROCTOR DENSITY

THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF 12 INCHES.

IF A GEOMEMBRANE LINER IS USED IT SHALL HAVE A MINIMUM THICKNESS OF 45 MILS AND BE ULTRAVIOLET RESISTANT.

THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHALL BE PLACED ON THE TOP AND BOTTOM OF THE GEOMEMBRANE AND SHALL MEET THE FOLLOWING SPECIFICATIONS:

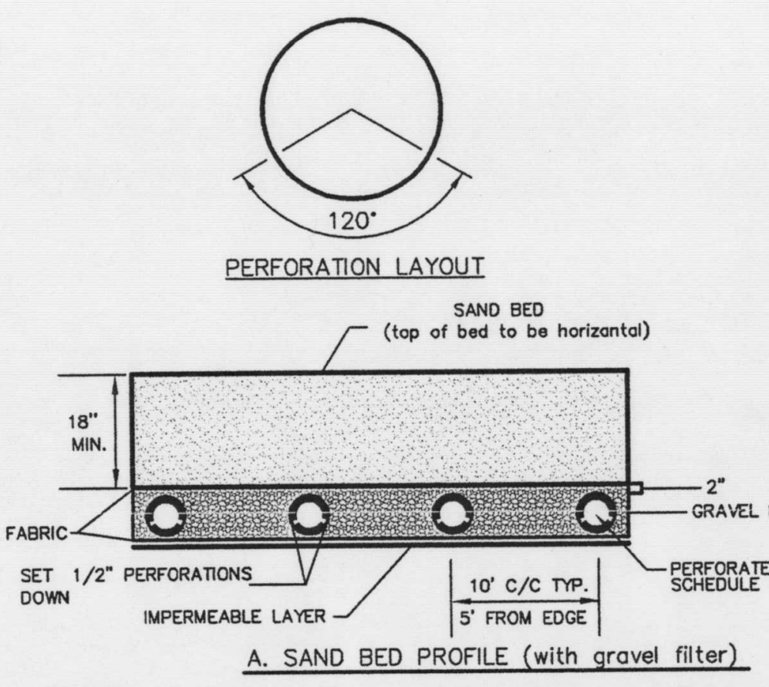
PROPERTY	TEST METHOD	UNIT	SPECS.
MATERIAL			NONWOVEN GEOTEXTILE
UNIT WEIGHT		OZ/SQ.YD.	4 (MIN.)
FILTRATION RATE		IN/SEC	0.08 (MIN.)
GRAB STRENGTH	ASTM D-4632	LB.	90 (MIN.)
PUNCTURE STRENGTH	ASTM D-3787	LB.	60 (MIN.)
MULLEN BURST STRENGTH	ASTM D-751	PSI.	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	300 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80 (MIN.)

SAND BED AND GEOTEXTILE FABRIC

FIRST (TOP) LAYER– FINE SAND, 0.02–0.04 INCH, 12 INCH TO 18 INCH DEPTH

SECOND LAYER– 1/2–2 INCH GRAVEL, AT LEAST 1 INCH DEPTH TO 2 INCH DEPTH SURROUNDING UNDERDRAIN PIPING

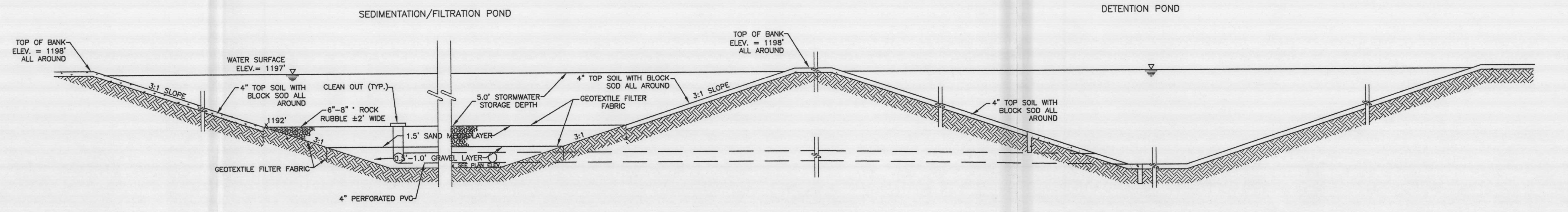
THE TWO LAYERS MUST BE SEPARATED FROM EACH OTHER USING SUITABLE GEOTEXTILE FABRIC MEETING THE ABOVE SPECIFICATIONS:



A. SAND BED PROFILE (with gravel filter)

C5.2.7

FILTRATION POND SAND BED W/ GEOTEXTILE FABRIC
SCALE: N.T.S.



C5.2.8

CROSS SECTION A-A
SCALE: N.T.S.

Date: Jun 20, 2005, 12:21pm User ID: tvicuna
File: G:\048\53\04853WQP01-NORTH.dwg

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617
Coy D Armstrong
6/20/05

THE HOME DEPOT
BULVERDE, TEXAS

NORTH WATER QUALITY POND
AND DETENTION DETAILS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\17\05
FILE: G:\048\53\04853WQP01-NORTH.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-54.00

SHEET
C-5.2

Texas Commission on Enviormental Quality

TSS Removal Calculations

Project: ***Home Depot Bulverde, TX (TX-413b)***
Date Prepared: 2/22/2005

Existing Load Calculations (Baseline):

Annual Load, Le = A x P x Rv x C x 0.226

where:
Le = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (32 for Travis and Williamson County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = 0.546(IC)2 + 0.328(IC) + 0.030
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (80 mg/l for undeveloped land)
0.226 = Units conversion factor

Existing Site Data:

A = 19.04 acres
P = 33 inches
IC = 0 %
C = 80 mg/l

Rv = 0.030

Le = 340.80 lbs.

Post Development Load Calculations:

Annual Load, Ld = A x P x Rv x C x 0.226

where:
Ld = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (30 for Bexar County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = $0.546(IC)^2 + 0.328(IC) + 0.030$
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (170 mg/l for developed land)
0.226 = Units conversion factor

Developed Site Data:

A = 21.89 acres
P = 33 inches
IC = 80 %
C = 170 mg/l

Rv = 0.642

Ld = 17813.28 lbs.

Calculation of Required TSS Load Reduction:

Load reduction, Lr = 0.80 x (Ld − Le)

Lr = 13977.98 lbs.

BMP Sizing Calculations

Table 3.4 BMP Removal Efficiency of TSS:

BMP	TSS Reduction (%)
Retention / Irrigation	100
Extended Detention Basin	75
Grassy Swale	70
Vegetated Filter Strips	85
Sand Filter	89
Wet Basin	93
Constructed Wetland	93

Based upon a selected BMP, the required pond volume is determined as follows:

$$Flc = \frac{Lr}{Ld \times BMPre \times Fst}$$

where:
Flc = Fraction of the load captured by the BMP
Lr = Required TSS load reduction to achieve 80%
BMPre = BMP removal efficiency from Table 3.4 (above)
Fst = Fraction of the site treated
where: Fst = (A − Bypass)/ A
Abp = Contributing drainage area to the BMP plus any IC bypass, acres
IC bypass = IC area of the site not draining to the BMP

BMPre = 89
BMP Name = **Sand Filter**
Abp = 22.642 acres
IC bypass = 0.752 acres

Fst = 0.97

Flc = 0.912

Required BMP Capture Volume to Achieve 80% Removal Efficiency:

Capture Volume = A x Rd x 1.2

where:
Rd = Runoff depth from Table 3.3, inches
1.2 = Represents an increase in volume by 20%**

** Capture volume shall be increased by 20% to accommodate reductions in available storage volume due to deposition of solids between full-scale maintenance activities.

Rd = 1.18 inches

Capture Volume = 116,382 cubic feet of volume in pond
(19,397 = the increase in volume for deposition of solids)

Minimum Surface Area for the Filtration Basin

$$Af = \frac{WQV(L)}{k(h+L)t}$$

where:
Af = Minimum surface area for the filtration basin (square feet)
WQV = Water Quality Volume (cubic feet)
L = Thickness of sand bed (1.5 feet)
h = Average height of water above sand bed (feet)
t = Basin draw down time (2 days)
k = permeability of sand (3.5 ft/d for full sedimentation, 2 ft/d for partial sedimentation)

WQV = 116,382 cubic feet

h = 2.75 inches

Af = 10,269 square feet

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

1. Written construction notification should be provided to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information should include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No temporary aboveground hydrocarbon and hazardous substance storage tank system may be installed within 150 feet if a domestic, industrial, irrigation, or public water supply well.

4. Prior to commencing construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. Controls specified in the SWPPP section of the approved Edwards Aquifer Contributing Zone Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

5. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

6. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 %. A permanent stake must be provided that can indicate when the sediment occupies 50 % of the basin volume.

7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. All spoils (excavated material) generated from the project site and stored on-site must have proper E&S controls installed.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

10. The following records should be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

11. The holder of any approved Contributing Zone plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

1. any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved;

C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

D. any development of land previously identified in a contributing zone plan as undeveloped.

Austin Regional Office 1921 Cedar Bend, Suite 150 Austin, Texas 78758-5336 Phone (512) 339-2929 Fax (512) 339-3795 San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

COY D. ARMSTRONG
87617

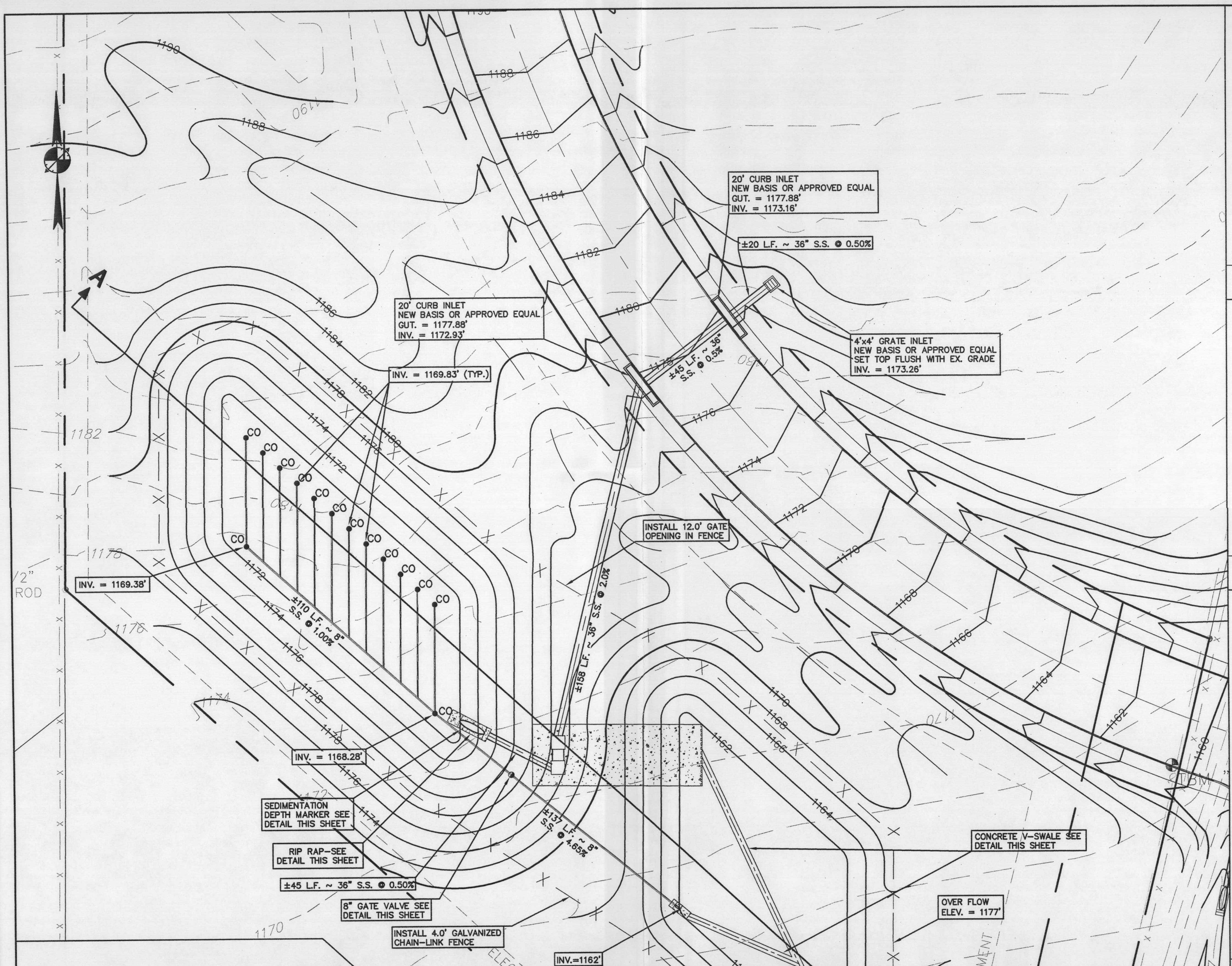
6/20/05

THE HOME DEPOT
BULVERDE, TEXAS

NORTH WATER QUALITY POND CALCULATIONS

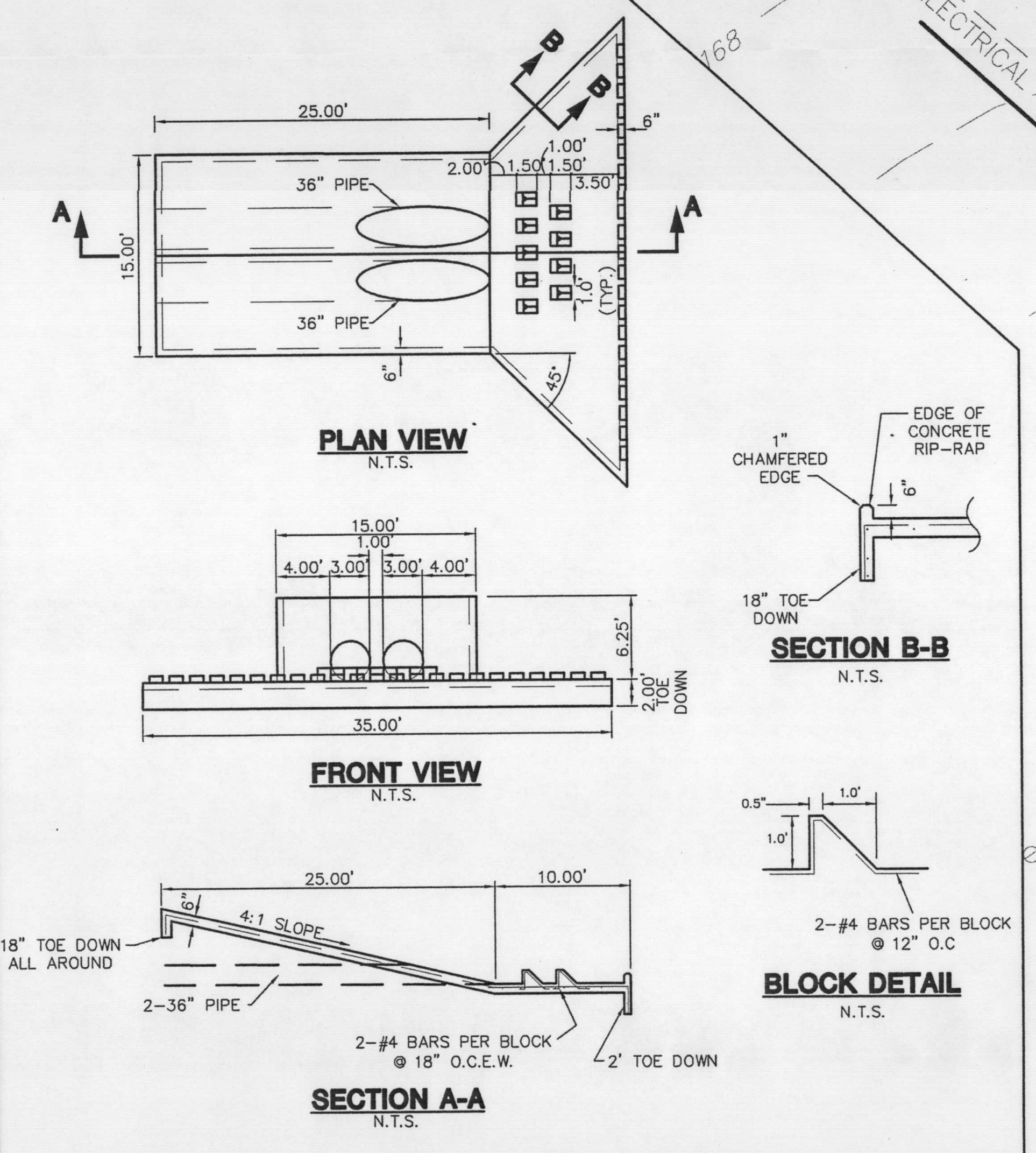
PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\3\05
FILE: G:\48\54\EXHIBITS\CC.DWG
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-53.00

SHEET
C-5.3



C5.4.1 **WATER QUALITY POND - PLAN VIEW**

SCALE: 1"= 30'-0"



C5.4.0 **DISSIPATOR BLOCK DETAIL**

SCALE: N.T.S.

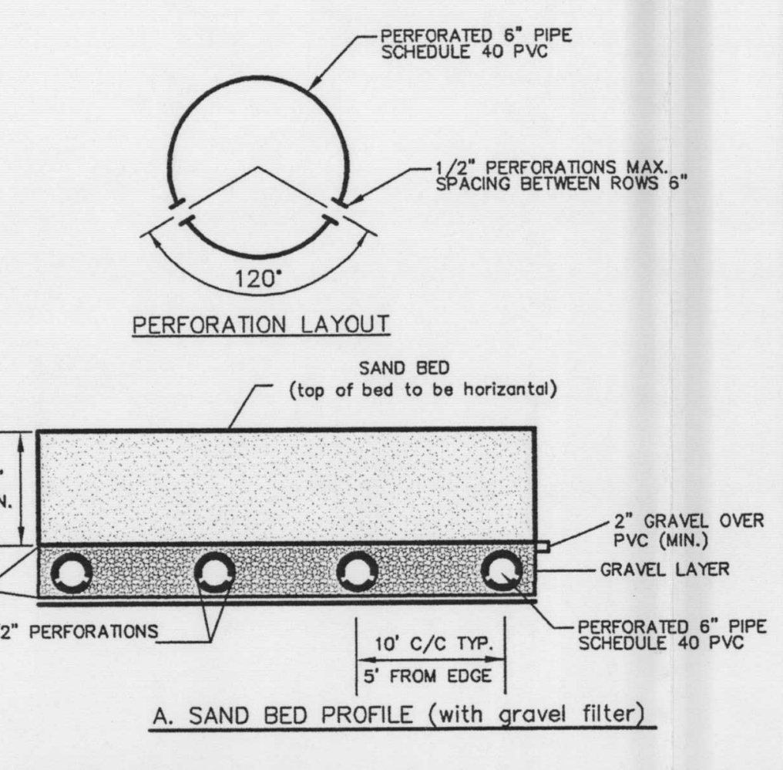
PROPERTY	TEST METHOD	UNIT	SPECS.
MATERIAL			NONWOVEN GEOTEXTILE
UNIT WEIGHT		OZ/SQ.YD.	8 (MIN.)
FILTRATION RATE		IN/SEC	0.08 (MIN.)
GRAB STRENGTH	ASTM D-4632	LB.	90 (MIN.)
PUNCTURE STRENGTH	ASTM D-751	LB.	125 (MIN.)
MULLEN BURST STRENGTH	ASTM D-751	PSI.	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	300 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80 (MIN.)

SAND BED AND GEOTEXTILE FABRIC

FIRST (TOP) LAYER- FINE SAND, 0.02-0.04 INCH, 12 INCH TO 18 INCH DEPTH

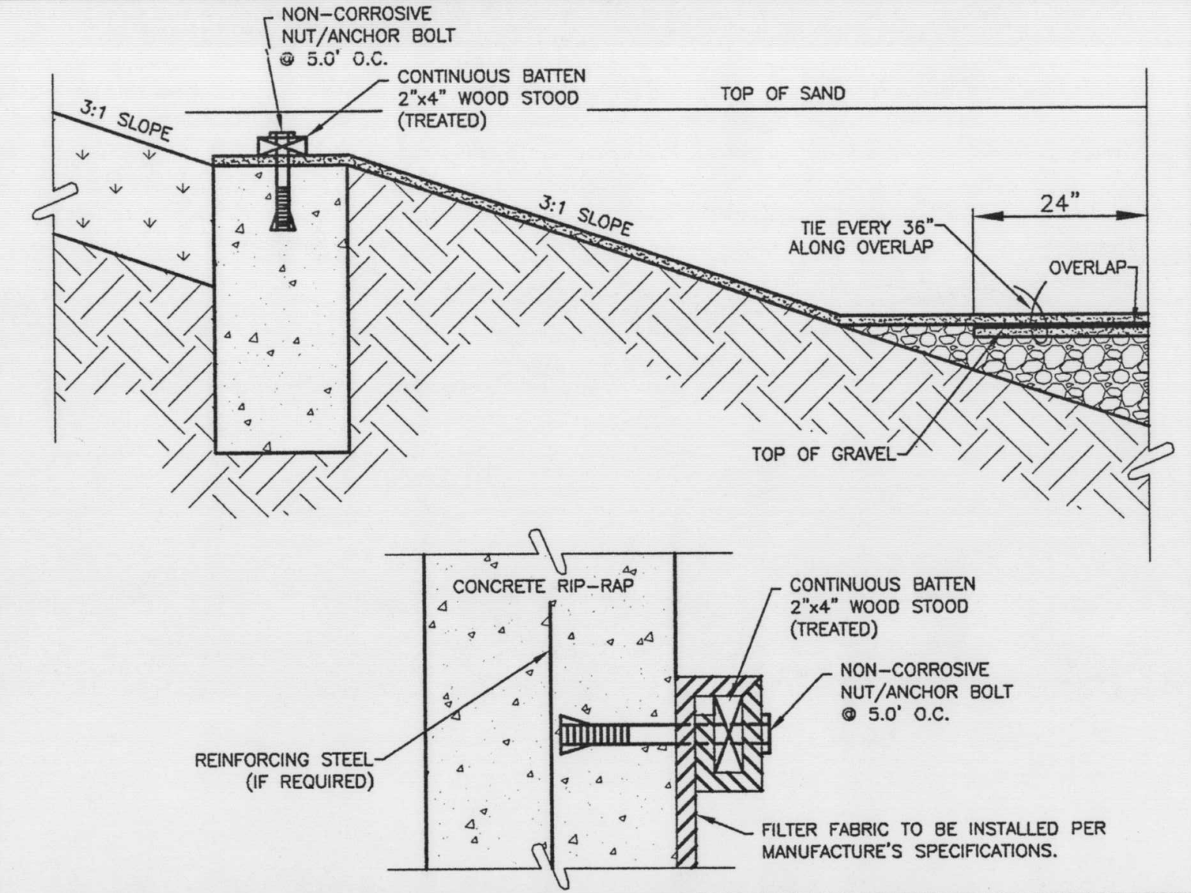
SECOND LAYER- 1/2-2 INCH GRAVEL, AT LEAST 1 INCH DEPTH TO 2 INCH DEPTH SURROUNDING UNDERDRAIN PIPING

THE TWO LAYERS MUST BE SEPARATED FROM EACH OTHER USING SUITABLE GEOTEXTILE FABRIC MEETING THE ABOVE SPECIFICATIONS:



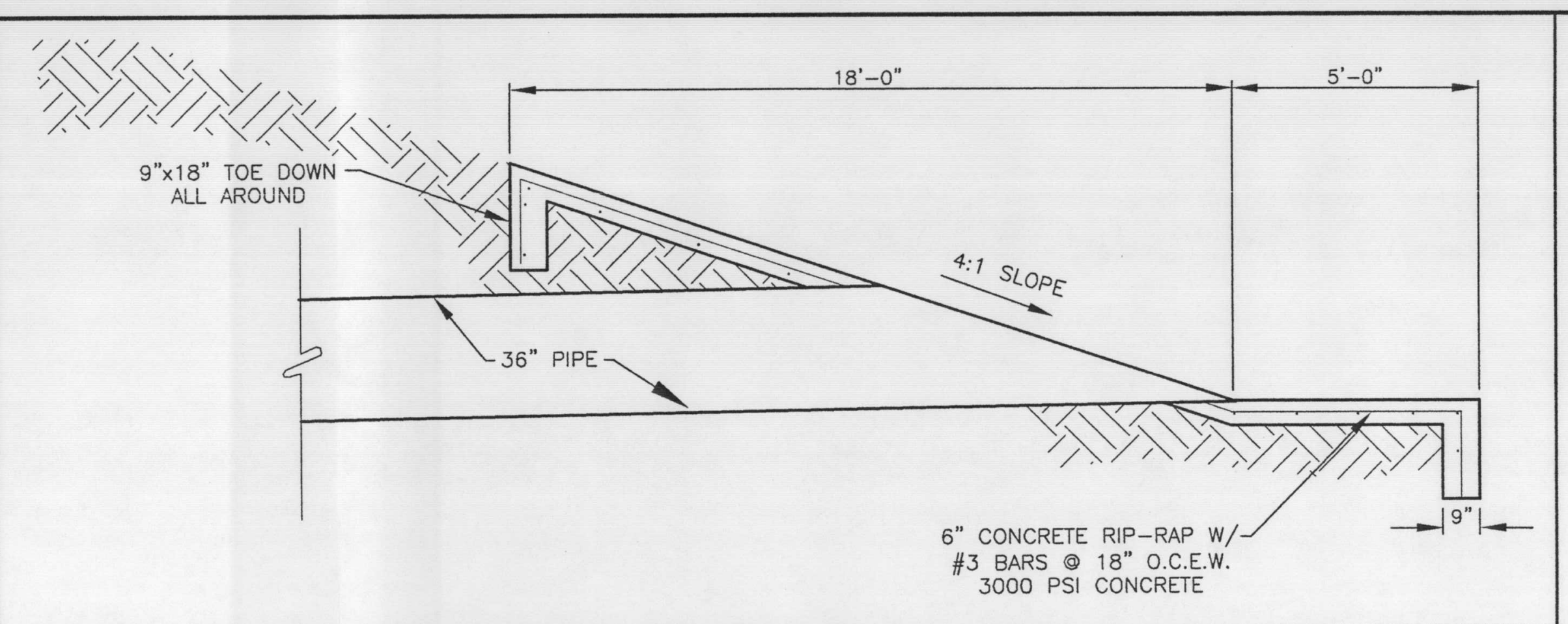
C5.4.8 **FILTRATION POND SAND BED W/ GEOTEXTILE FABRIC**

SCALE: N.T.S.



C5.4.9 **FILTER FABRIC & ANCHORING DETAIL**

SCALE: N.T.S.



C5.4.2 **RIP-RAP DETAIL**

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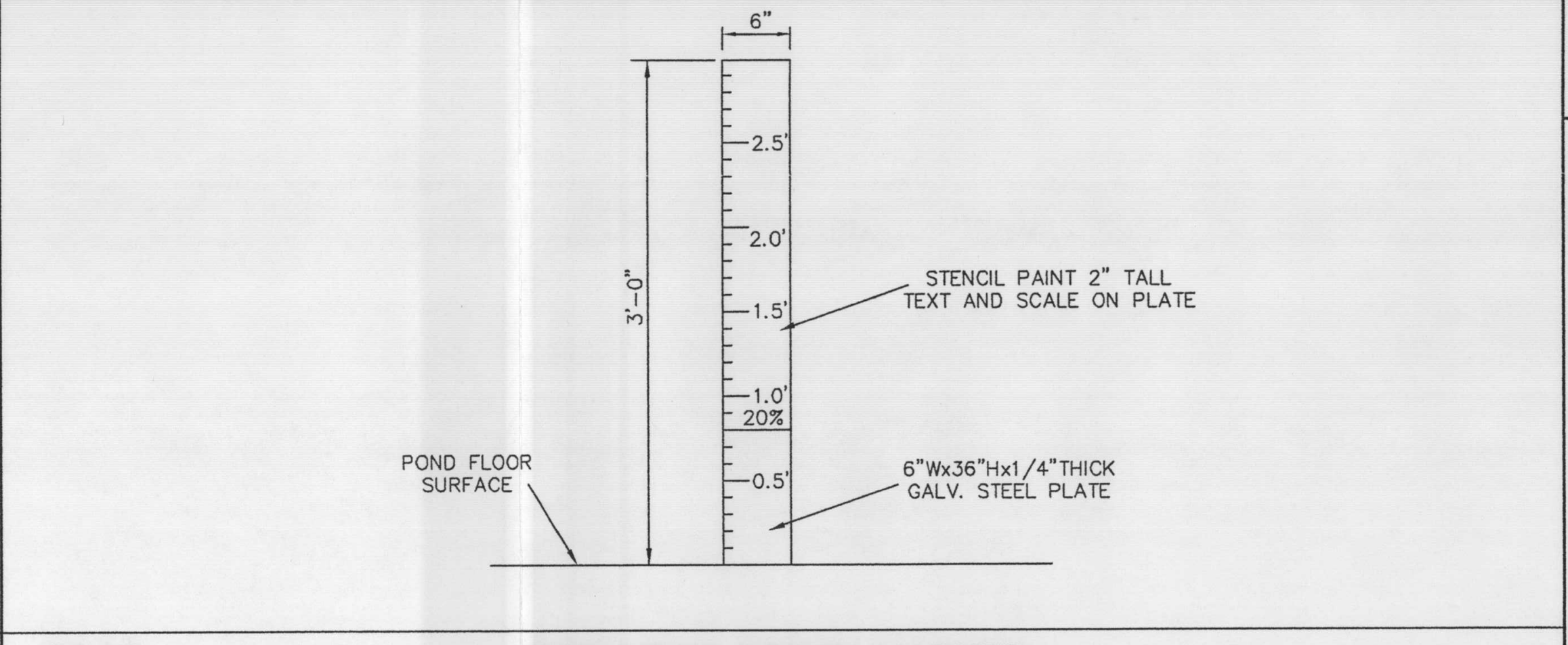
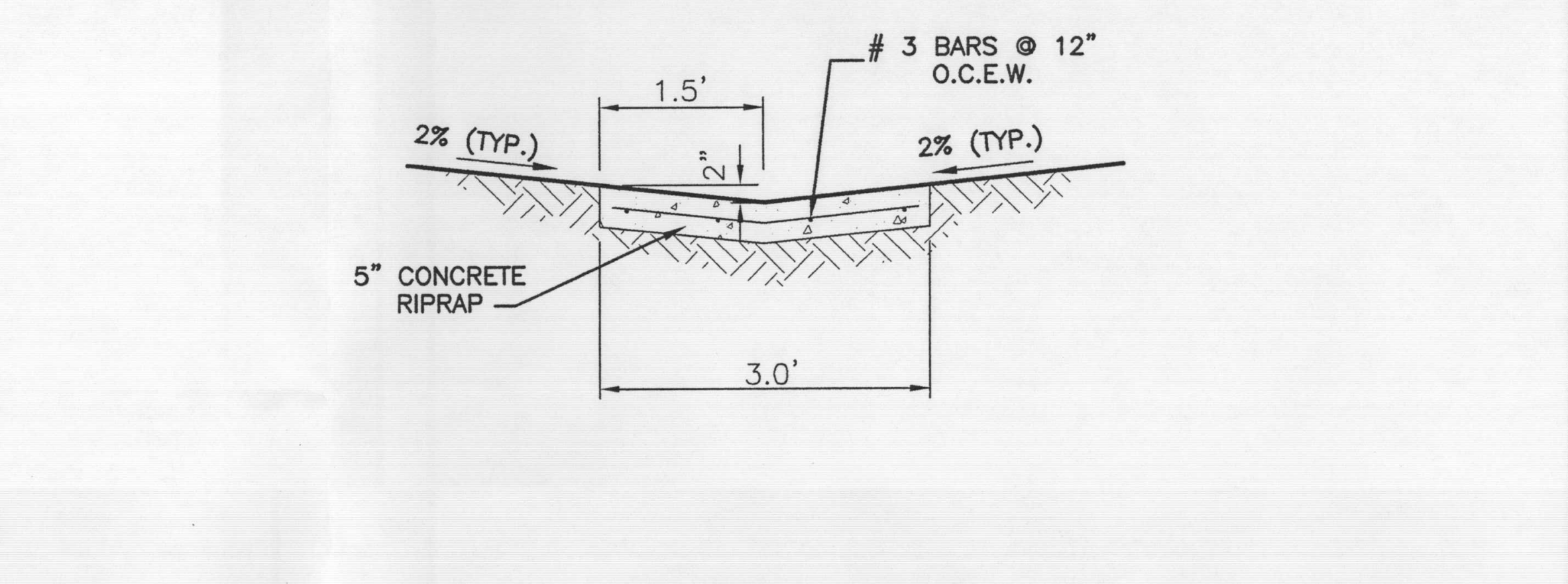


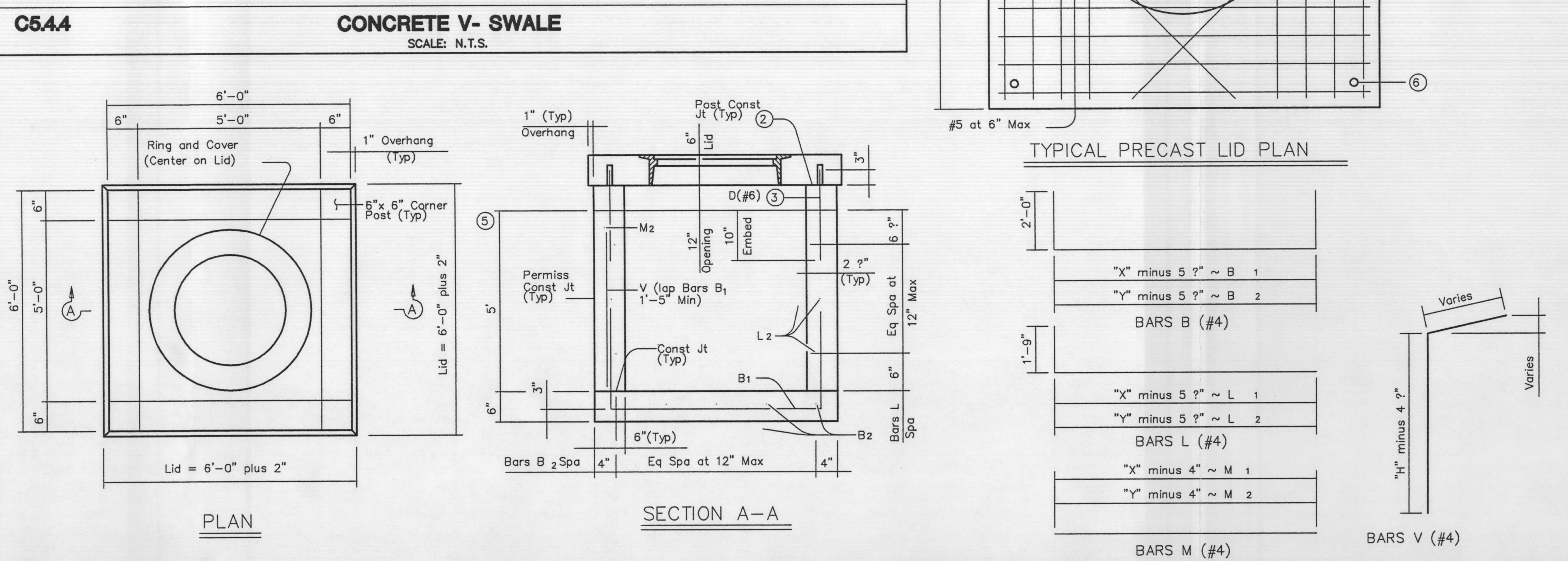
C5.4.3 **SEDIMENT DEPTH MARKER**

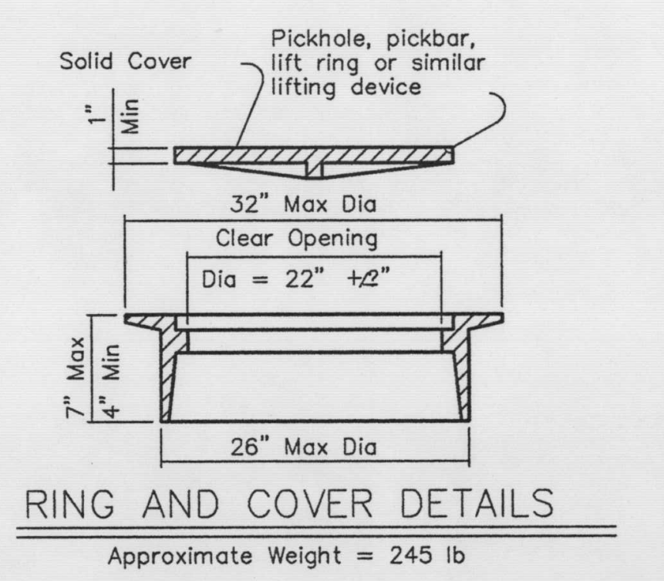
SCALE: N.T.S.



C5.4.4 **CONCRETE V- SWALE**

SCALE: N.T.S.





RING AND COVER DETAILS

Approximate Weight = 245 lb

① May be changed as directed by the Engineer.

② Place layer of grout between lid and corner posts to provide stable seating of lid.

③ Center Dowels D in corner posts. (Typ)

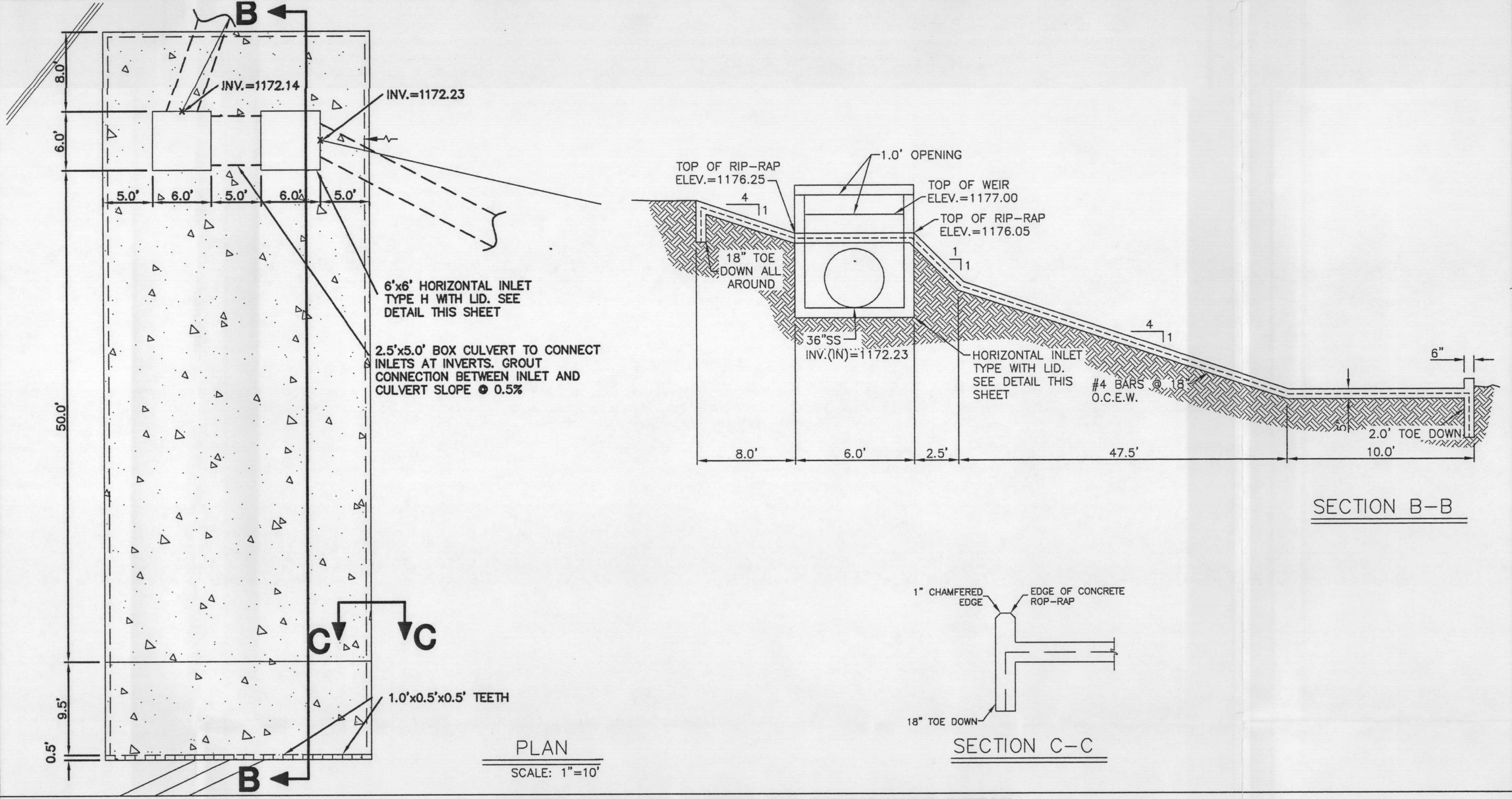
④ Not Used

⑤ Not Used

⑥ Form holes in lid for Dowels D using 1" Dia x 4" PVC Pipe (SCH 40) (Typ)

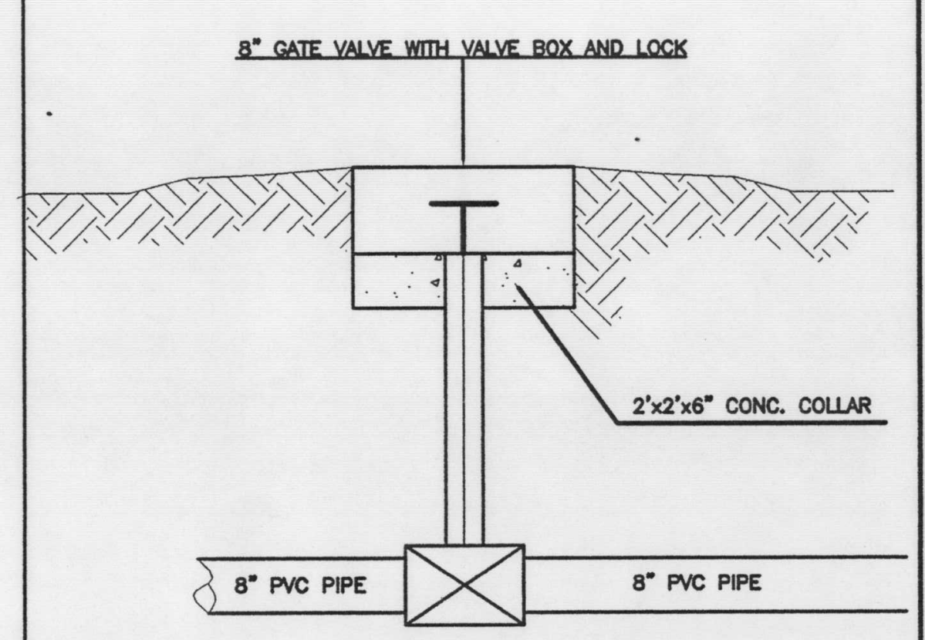
C5.4.5 **HORIZONTAL INLET TYPE H DETAIL**

SCALE: N.T.S.



C5.4.6 **WATER QUALITY OVERFLOW STRUCTURE DETAIL**

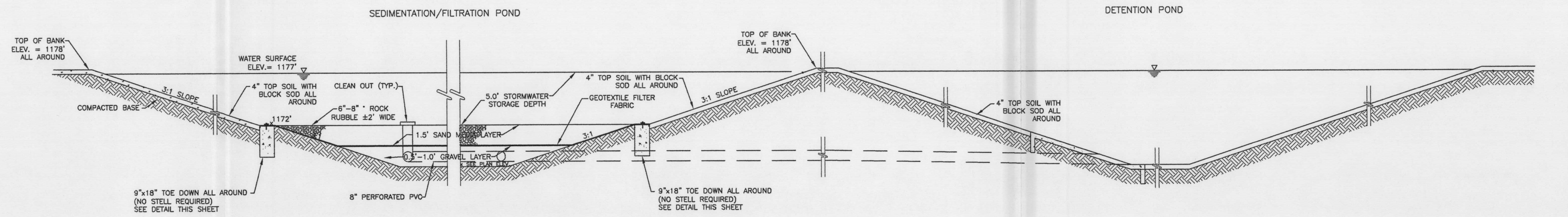
SCALE: N.T.S.



NOTE:
VALVE WILL BE SET PARTIALLY CLOSED SO AS TO PROVIDE A MINIMUM DRAWDOWN TIME OF 24 HRS.

C5.4.7 **8" GATE VALVE DETAIL**

SCALE: N.T.S.



C5.4.10 **CROSS SECTION A-A**

SCALE: N.T.S.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

STATE OF TEXAS
COY D. ARMSTRONG
87617
LICENSED PROFESSIONAL ENGINEER

Coy D. Armstrong
6/23/05

THE HOME DEPOT
BULVERDE, TEXAS

SOUTH WATER QUALITY POND
AND DETENTION DETAILS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\3\05
FILE: G:\048\53\04853WQP01-SOUTH.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-54.00

SHEET
C-5.4

Date: Jun 23, 2005, 3:24pm User ID: tvicuna
File: G:\048\53\04853WQP01-SOUTH.dwg

Date: Jun 20, 2005, 10:28am User ID: cgilbert
File: G:\048\53\04853WQP02-SOUTH.dwg

Texas Commission on Enviormental Quality

TSS Removal Calculations Project: ***Home Depot Bulverde, TX (TX-413b)***
Date Prepared: 02/22/2005

Existing Load Calculations (Baseline):

Annual Load, Le = A x P x Rv x C x 0.226

where:
Le = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (32 for Travis and Williamson County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = 0.546(IC)2 + 0.328(IC) + 0.030
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (80 mg/l for undeveloped land)
0.226 = Units conversion factor

Existing Site Data:

A = 17.96 acres
P = 33 inches
IC = 0 %
C = 80 mg/l

Rv = 0.030

Le = 321.47 lbs.

Post Development Load Calculations:

Annual Load, Ld = A x P x Rv x C x 0.226

where:
Ld = Annual pollutant load, pounds
A = Contributing drainage area to the BMP, acres
P = Average annual precipitation, inches (30 for Bexar County)
Rv = Runoff coefficient for the fraction of impervious cover
Rv = $0.546(IC)^2 + 0.328(IC) + 0.030$
IC = Fraction of impervious cover (If IC = 0, Rv = 0.030)
C = Average TSS concentration, mg/l (170 mg/l for developed land)
0.226 = Units conversion factor

Developed Site Data:

A = 9.86 acres
P = 33 inches
IC = 80 %
C = 170 mg/l

Rv = 0.642

Ld = 8023.71 lbs.

Calculation of Required TSS Load Reduction:

Load reduction, Lr = 0.80 x (Ld – Le)

Lr = 6161.79 lbs.

BMP Sizing Calculations

Table 3.4 BMP Removal Efficiency of TSS:

BMP	TSS Reduction (%)
Retention / Irrigation	100
Extended Detention Basin	75
Grassy Swale	70
Vegetated Filter Strips	85
Sand Filter	89
Wet Basin	93
Constructed Wetland	93

Based upon a selected BMP, the required pond volume is determined as follows:

$$Flc = \frac{Lr}{Ld \times BMPre \times Fst}$$

where:
Flc = Fraction of the load captured by the BMP
Lr = Required TSS load reduction to achieve 80%
BMPre = BMP removal efficiency from Table 3.4 (above)
Fst = Fraction of the site treated
where: Fst = (A – Bypass)/ A
Abp = Contributing drainage area to the BMP plus any IC bypass, acres
IC bypass = IC area of the site not draining to the BMP

BMPre = 89 BMP Name = Sand Filter
Abp = 10.315 acres
IC bypass = 0.455 acres

Fst = 0.96

Flc = 0.903

Required BMP Capture Volume to Achieve 80% Removal Efficiency:

Capture Volume = A x Rd x 1.2

where:
Rd = Runoff depth from Table 3.3, inches
1.2 = Represents an increase in volume by 20%**

** Capture volume shall be increased by 20% to accommodate reductions in available storage volume due to deposition of solids between full-scale maintenance activities.

Rd = 1.18 inches

Capture Volume = 53,020 cubic feet of volume in pond
(8,837 = the increase in volume for deposition of solids)

Minimum Surface Area for the Filtration Basin

$$Af = \frac{WQV(L)}{k(h+L)t}$$

where:
Af = Minimum surface area for the filtration basin (square feet)
WQV = Water Quality Volume (cubic feet)
L = Thickness of sand bed (1.5 feet)
h = Average height of water above sand bed (feet)
t = Basin draw down time (2 days)
k = permeability of sand (3.5 ft/d for full sedimentation, 2 ft/d for partial sedimentation)

WQV = 53,020 cubic feet

h = 2.75 inches

Af = 4,678 square feet

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

1. Written construction notification should be provided to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information should include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No temporary aboveground hydrocarbon and hazardous substance storage tank system may be installed within 150 feet if a domestic, industrial, irrigation, or public water supply well.

4. Prior to commencing construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. Controls specified in the SWPPP section of the approved Edwards Aquifer Contributing Zone Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

5. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

6. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 %. A permanent stake must be provided that can indicate when the sediment occupies 50 % of the basin volume.

7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

8. All spoils (excavated material) generated from the project site and stored on-site must have proper E&S controls installed.

9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

10. The following records should be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

11. The holder of any approved Contributing Zone plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

1. any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved;

C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

D. any development of land previously identified in a contributing zone plan as undeveloped.

Austin Regional Office 1921 Cedar Bend, Suite 150 Austin, Texas 78758-5336 Phone (512) 339-2929 Fax (512) 339-3795 San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

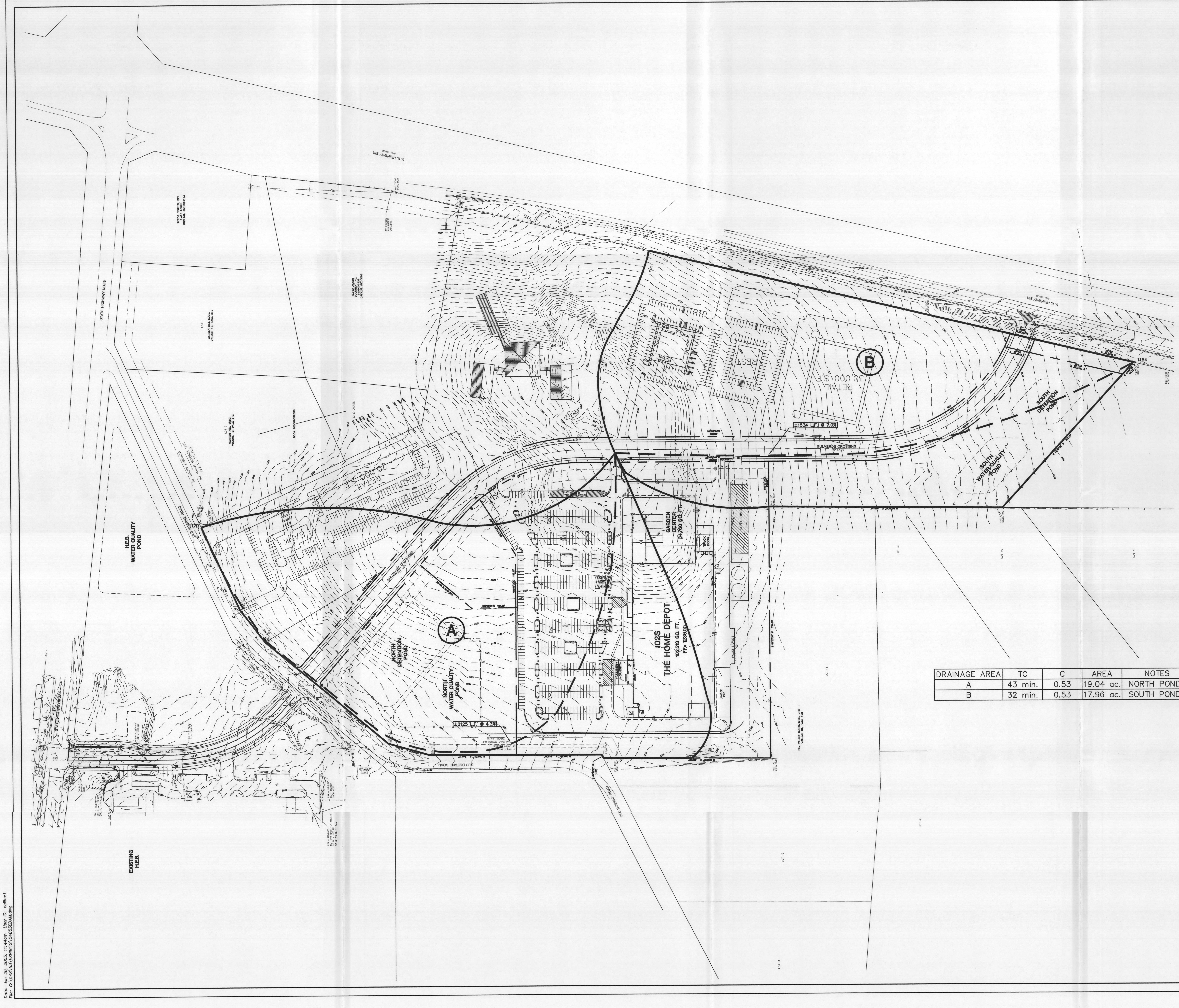
COY D. ARMSTRONG
87617
6/20/05

THE HOME DEPOT
BULVERDE, TEXAS

SOUTH WATER QUALITY POND CALCULATIONS

PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\3\05
FILE: G:\48\54\EXHIBITS\CC.DWG
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-53.00

SHEET
C-5.5



0 50 100 150 200
1"=100'

DRAINAGE AREA	TC	C	AREA	NOTES
A	43 min.	0.53	19.04 ac.	NORTH PONDS
B	32 min.	0.53	17.96 ac.	SOUTH PONDS

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
▨		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
⊕		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✹	LIGHT POLE
∅	∅	POWER POLE
⚓	⚓	DOWN GUY
		FIRE HYDRANT
⊘	◐	WATER VALVE
⊠	◪	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
—//—//—	—//—//—	WOOD FENCE
—o—	—o—	CHAIN LINK FENCE
—×—×—	—×—×—	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO○	CO●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
—o—	—o—	SIGN
—	—	VARIABLE HEIGHT CONCRETE RETAINING WALL
⊠	☒	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
T	T	TELEPHONE SERVICE BOX
○	●	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	SS	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— — WW—	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
→	→	FLOW DIRECTION
▨	▨	CONCRETE SURFACE
	▨ ▨	LIMITS OF CONSTRUCTION
1170		ON SITE TREE TO REMAIN
1170		TREE TO BE REMOVED

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

LEGAL DESCRIPTION:

BEING A 29.069 ACRE TRACT OF LAND SITUATED IN THE PHILLIP WAGNER SURVEY NO. 573, ABSTRACT NO. 673 AND THE CARL GEORG SURVEY NO. 432, ABSTRACT NO. 190, COMAL COUNTY, TEXAS, BEING PORTIONS OF THE FOLLOWING TRACTS OF LAND: THAT CERTAIN REMAINING PORTION OF 78.104 ACRES OF LAND AS DESCRIBED IN DOCUMENT NO. 9706003738 OF THE OFFICIAL RECORDS OF COMAL COUNTY, TEXAS; A PORTION OF LOT 3 AND ALL OF LOTS 4–6 (INCLUSIVE), WARREN HILL SUBDIVISION, A SUBDIVISION OF RECORD IN VOLUME 12, PAGE 312 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

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ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525–9090 Fax (210)525–0529

STATE OF TEXAS
COY D. ARMSTRONG
87617
LICENSED PROFESSIONAL ENGINEER

6/20/05

THE HOME DEPOT
BULVERDE, TEXAS

EXISTING OVERALL DRAINAGE AREA MAP

PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\4\05
FILE: G:\048\53\EXHIBITS\04853EDAM.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–53.00

SHEET
EX-3

Date: Jun 20, 2005, 11:44am User ID: cgilbert
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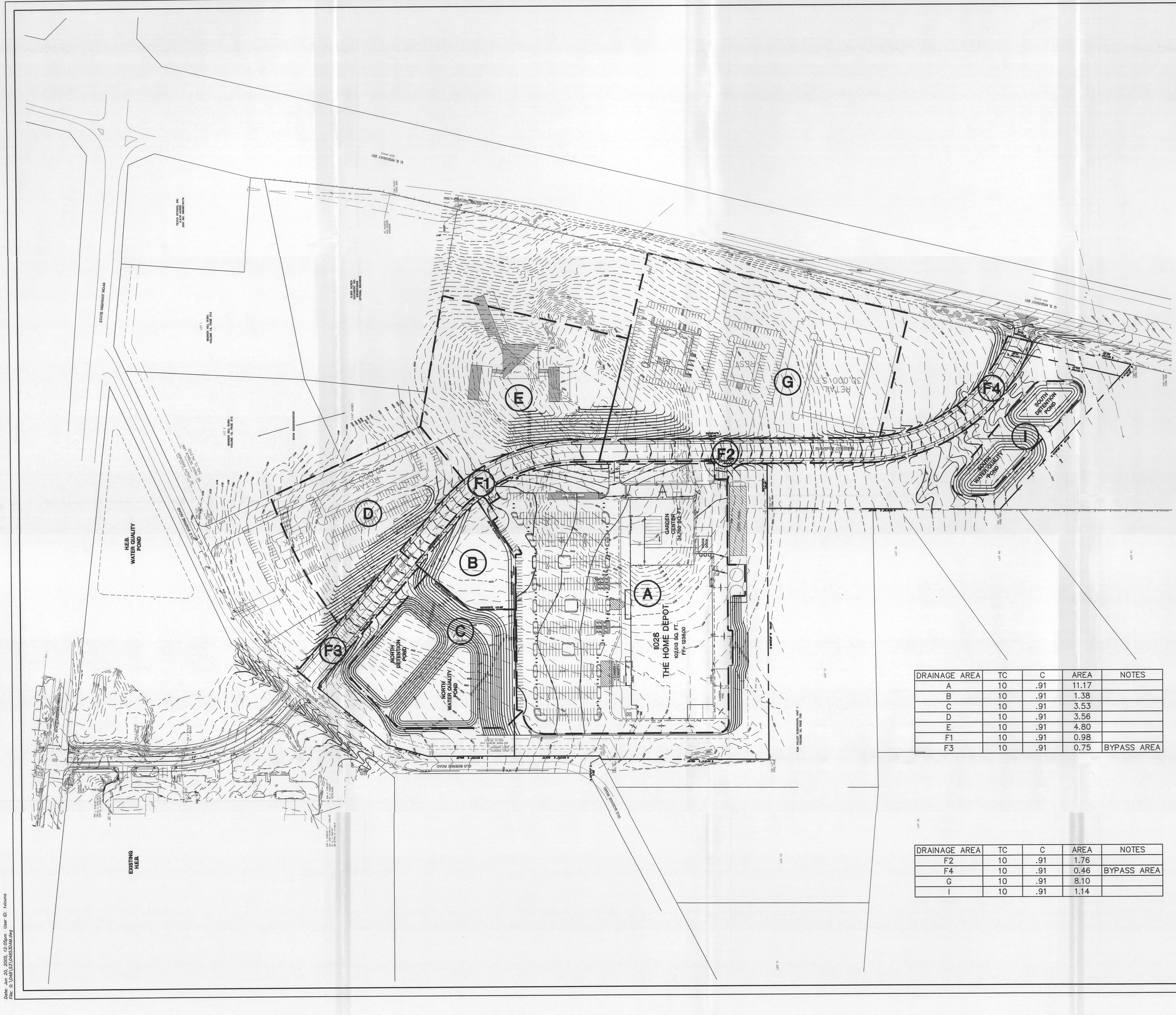

DRAINAGE AREA	TC	C	AREA	NOTES
A	10	.91	11.17	
B	10	.91	1.38	
C	10	.91	3.53	
D	10	.91	3.56	
E	10	.91	4.80	
F1	10	.91	0.98	
F3	10	.91	0.75	BYPASS AREA

DRAINAGE AREA	TC	C	AREA	NOTES
F2	10	.91	1.76	
F4	10	.91	0.46	BYPASS AREA
G	10	.91	8.10	
I	10	.91	1.14	

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
⊕		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
∅	∅	POWER POLE
⚓	⚓	DOWN GUY
⚲	⚲	FIRE HYDRANT
⊘	◐	WATER VALVE
◻	◩	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
—//—//—	—//—//—	WOOD FENCE
—○—	—○—	CHAIN LINK FENCE
—×—×	—×—×	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO°	CO•	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
⊥	⊥	SIGN
▬	▬	VARIABLE HEIGHT CONCRETE RETAINING WALL
☒	☒	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
△T	△T	TELEPHONE SERVICE BOX
○	●	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	═SS═	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— — WW —	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
⟶	⟶	FLOW DIRECTION
▨	▨	CONCRETE SURFACE
	▨ ▨	LIMITS OF CONSTRUCTION
⊕ 1170		ON SITE TREE TO REMAIN
◌ 1170		TREE TO BE REMOVED

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Tel. (210)525–9090 Fax (210)525–0529

COY D. ARMSTRONG
87617

Coy D. Armstrong
6/20/05

THE HOME DEPOT
BULVERDE, TEXAS

PROPOSED OVERALL DRAINAGE AREA MAP

PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\4\05
FILE: G:\048\53\04853DAM.dwg
DRAWN BY: CJG
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048–53.00

SHEET
EX-1

Date: Jun 20, 2005, 12:05pm User ID: tvicuna
File: G:\048\53\04853DAM.dwg

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
◎		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
◐		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
⌀	⌀	POWER POLE
⫝	⫝	DOWN GUY
⊼	⊼	FIRE HYDRANT
⊘	◐	WATER VALVE
⧄	◩	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
—⫽—⫽	—⫽—⫽	WOOD FENCE
—o—	—o—	CHAIN LINK FENCE
×—×	×—×	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO○	CO●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
⍜	⍜	SIGN
— —	— —	VARIABLE HEIGHT CONCRETE RETAINING WALL
⊠	⧗	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
△T	△T	TELEPHONE SERVICE BOX
○	●	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	═SS═	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
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— — WW —	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
⟶	⟶	FLOW DIRECTION
▨	▨	CONCRETE SURFACE
	▬ ▬ ▬	LIMITS OF CONSTRUCTION
○ +1170		ON SITE TREE TO REMAIN
◌ +1170		TREE TO BE REMOVED

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NOTES:

1. OLD BOERNE ROAD EAST OF THE INTERSECTION WITH THE NEW ROAD SHALL BE IMPROVED TO REBUILD SURFACCE FAILURES (POTHOLES) FOLLOWED BY HOTHOT MIX ASPHALTIC CONCRETE PAVEMENT NOT LESS THAN ONE AND ONE-HALF (1 ½) INCHES THICK FOR SURFACE COURSE (TYPE D) AND TWO (2) INCHES THICK FOR LEVELING-UP COURSE (TYPE B). DRAINAGE COURSES ALONG OLD BOERNE ROAD SHALL BE CLEARED OF DEBRIS FOR IMPROVED DRAINAGE FLOW.

BENCHMARKS:

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COY D. ARMSTRONG
87617

Coy D. Armstrong
6/20/05

THE HOME DEPOT
BULVERDE, TEXAS

OVERALL SITE PLAN

PLOTTING SCALE: 1"= 1"
DATE REVISED: 6\3\05
FILE: G:\048\53\04853MSPN.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-53.00

SHEET
C-1.0

Date: Jun 20, 2005, 10:42am User ID: cgilbert
File: G:\048\53\04853MSPN.dwg

ATTACHMENT N

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN FOR HOME DEPOT-BULVERDE, TX

The owner of the lot where a sedimentation/filtration basin is located is responsible for the inspection, maintenance, and repair of the water quality pond.

Sedimentation/Filtration Basin

Monthly:	The vegetative growth shall be checked. Vegetation in the basin shall not exceed 18 inches in height.
Quarterly:	The level of accumulated silt shall be checked. If depth of silt/pollutants exceeds 2 inches, it shall be removed and disposed of "properly". The accumulation of pollutants/oils shall be checked. If the pollutants have significantly reduced the design capacity of the sand filter, the pollutants shall be removed. The basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive. All debris and trash shall be removed every 3-6 months.
Annually:	The basin shall be inspected for structural integrity and repaired if necessary. Sand media shall be replaced once the integrity and effectiveness is not performing to design standards (i.e., 48 hour drawdown period, removal efficiency, foul odor, etc.). Upon media replacement, a visual inspection shall be performed on all perforated discharge pipes on an as need basis.
After Rainfall:	The basin shall be checked after each rainfall occurrence of 0.5 inches or more to ensure that it drains within 48 hours after it has reached its peak level. If it does not drain within this time, corrective maintenance will be accomplished.
Retrofit:	Retrofit of the basins are not anticipated. Therefore no maintenance program is created.

HOME DEPOT U.S.A., INC.,
a Delaware corporation

By: ______________________ 11-19-04
Jacob R. Pritcher, Jr., Director - Legal   Date

ATTACHMENT O

PILOT-SCALE FIELD TESTING PLAN

NOT APPLICABLE

PILOT-SCALE FIELD TESTING PLAN

A plan for pilot-scale field testing is not required since the TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

ATTACHMENT P

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

MEASURE FOR MINIMIZING SURFACE STREAM CONTAMINATION

The proposed site will capture the required volume, treat and release captured volume at a slow release. Overflow devices at the pond will divert the runoff to the corresponding detention pond.

AGENT AUTHORIZATION FORM

Agent Authorization Form

For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Jacob R. Pritcher, Jr.
Print Name

Director - Legal
Title - Owner/President/Other

of Home Depot U.S.A., Inc., a Delaware corporation
Corporation/Partnership/Entity Name

have authorized Coy D. Armstrong, P.E.
Print Name of Agent/Engineer

of Bury+Partners-SA, Inc.
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For applicants who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

HOME DEPOT U.S.A., INC.,
a Delaware corporation

By: ______________________________ 11/19/04
Jacob R. Pritcher, Jr., Director - Legal Date

THE STATE OF TEXAS §
§
COUNTY OF DALLAS §

BEFORE ME, the undersigned authority, on this day personally appeared Jacob R. Pritcher, Jr., Director-Legal of HOME DEPOT U.S.A., INC., a Delaware corporation, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledge to me that he executed same for the purpose and consideration therein expressed, and in the capacity therein stated.

GIVEN under my hand and seal of office on this 19 day of November, 2004.

Debra S Broome
Notary Public, State of Texas

Debra S. Broome
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11-8-05

DEBRA S. BROOME
MY COMMISSION EXPIRES
November 8, 2005

CONTRIBUTING ZONE FEE APPLICATION FORM

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Contributing Zone Fee Application Form

NAME OF PROPOSED REGULATED ENTITY: The Home Depot – Bulverde, TX
REGULATED ENTITY LOCATION: SWQ- SH 46 & HWY 281
NAME OF CUSTOMER: Home Depot U.S.A., Inc.
CONTACT PERSON: Jacob R. Pritcher, Jr. PHONE: (972) 402-3800
(Please Print)

Customer Reference Number (if issued): CN 600240659 (nine digits)
Regulated Entity Reference Number (if issued): RN ____________ (nine digits)

AUSTIN REGIONAL OFFICE (3373)	**SAN ANTONIO REGIONAL OFFICE (3362)**	
☐ Hays	☐ Bexar	☐ Medina
☐ Travis	X Comal	☐ Uvalde
☐ Williamson	☐ Kinney	

APPLICATION FEES MUST BE PAID BY CHECK, CERTIFIED CHECK, OR MONEY ORDER, PAYABLE TO THE Texas Commission on Environmental Quality. YOUR CANCELED CHECK WILL SERVE AS YOUR RECEIPT. **THIS FORM MUST BE SUBMITTED WITH YOUR FEE PAYMENT. THIS PAYMENT IS BEING SUBMITTED TO (CHECK ONE):**

X **SAN ANTONIO REGIONAL OFFICE**

☐ **AUSTIN REGIONAL OFFICE**

☐ **Mailed to TCEQ:**
TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ **Overnight Delivery to TCEQ:**
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

Check one:

X **Contributing Zone Plan - Fee Due $250**

☐ **Modification of a Previously Approved Contributing Zone Plan - Fee Due $250**

☐ **Extension of Time Request - Fee Due $100**

Signature

11/23/04
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

TCEQ-10258 (10/01/04)

TCEQ CORE DATA FORM

TCEQ Core Data Form

TCEQ Use Only

If you have questions on how to fill out this form or about our Central Registry, please contact us at 512-239-5175.

Individuals are entitled to request and review their personal information that the agency gathers on its forms.
They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

SECTION I: General Information

1. Reason for Submission *Example: new wastewater permit; IHW registration; change in customer information; etc.*

New Contributing Zone Plan

2. Attachments				**Describe Any Attachments:** *(ex: Title V Application, Waste Transporter Application, etc.)*
	YES	X	NO	

3. Customer Reference Number-*if issued*			**4. Regulated Entity Reference Number-*if issued***		
CN	600240659	*(9 digits)*	RN		*(9 digits)*

SECTION II: Customer Information

5. Customer Role *(Proposed or Actual)* -- As It Relates to the Regulated Entity Listed on This Form

Please check one of the following:		Owner		Operator	X	Owner and Operator
Occupational Licensee		Volunteer Cleanup Applicant				Other
TCEQ Use Only		**Superfund**		**PST**		**Respondent**

6. General Customer Information

	New Customer		Change to Customer Information
	Change in Regulated Entity Ownership	X	No Change *

***If "No Change" and Section I is complete, skip to Section III - Regulated Entity Information.**

7. Type of Customer:			Individual		Sole Proprietorship - D.B.A.
	Partnership		Corporation		Federal Government
	State Government		County Government		City Government
	Other Government		Other:		

8. Customer Name *(If an individual, please print last name first)*	*If new name, enter previous name:*

9. Mailing Address:

City	State	ZIP	ZIP + 4

10. Country Mailing Information *if outside USA*	**11. E-Mail Address *if applicable***

12. Telephone Number	**13. Extension or Code**	**14. Fax Number *if applicable***

15. Federal Tax ID *(9 digits)*	**16. State Franchise Tax ID Number** *if applicable*	**17. DUNS Number** *if applicable* *(9 digits)*

18. Number of Employees										**19. Independently Owned and Operated?**	
	0-20		21-100		101-250		251-500		501 and higher	Yes	No

SECTION III: Regulated Entity Information

20. General Regulated Entity Information

X	New Regulated Entity		Change to Regulated Entity Information		No Change*

*If "No Change" and Section I is complete, skip to Section IV - Preparer Information.

21. Regulated Entity Name *(If an individual, please print last name first)*				
The Home Depot – Bulverde, TX				
22. Street Address (No PO Boxes)				
	City	State	ZIP	ZIP + 4
23. Mailing Address				
	City	State	ZIP	ZIP + 4
24. E-Mail Address:				

25. Telephone Number	**26. Extension or Code**	**27. Fax Number** *if applicable*

28. Primary SIC Code (4 digits)	**29. Secondary SIC Code** (4 digits)	**30. Primary NAICS Code** (5 or 6 digits)	**31. Secondary NAICS Code** (5 or 6 digits)
5211	5261		

32. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description)

Home improvement warehouse

Questions 33 - 37 address geographic location. Please refer to the instructions for applicability.

33. County	**Comal**

34. Description of Physical Location

SWQ- SH 46 & HWY 281

35. Nearest City	**State**	**Nearest Zip**
Bulverde	**TX**	

36. Latitude (N)			***37. Longitude (W)***		
Degrees	***Minutes***	***Seconds***	***Degrees***	***Minutes***	***Seconds***
29	47	36.63	-98	25	28.76

38. TCEQ Programs In Which This Regulated Entity Participates *Not all programs have been listed. Please add to this list as needed. If you don't know or are unsure, please mark "Unknown".* If you know a permit or registration # for this entity, please write it below the program."

	Animal Feeding Operation		Petroleum Storage Tank		Water Rights
	Title V - Air		Wastewater Permit	X	Water Quality
	Industrial & Hazardous Waste		Water Districts		
	Municipal Solid Waste		Water Utilities		Unknown
	New Source Review - Air		Licensing - TYPE(s)		

Section IV: Preparer Information

39. Name **Bury+Partners-SA, Inc. c/o Coy D. Armstrong, P.E.**	**40. Title** **Project Manager**

41. Telephone Number **210/525-9090**	**42. Extension or Code**	**43. Fax Number** *if applicable* **210/525-0529**

44. E-mail Address:	**carmstrong@burypartners.com**

Storm Water Compliance Specialists

"RECEIVED TCEQ"
SAN ANTONIO
REGION

2005 JUL -7 PM 3:49

THE HOME DEPOT U.S.A., INC.

Bulverde, Texas

paradigm
ENGINEERING

1965 Lakepointe Drive :: Lewisville, Texas 75057 :: 866.PARA.411 :: 972.829.8100 :: Fax: 972.829.8101 :: www.paradigmengineering.com

SWPPP IMPLEMENTATION – Large Construction Activities

IMPORTANT!! Read and follow the instructions to complete requirements for the Storm Water Pollution Prevention Plan (SWPPP)

Notice of Intent (NOI)

Please have an officer, general partner or owner of the company sign and date in blue ink. Fill in by hand or typewriter any incomplete or highlighted information. The NOI must be mailed and postmarked 48 hours before construction begins.

Make four (4) copies (5 copies, if No. 6 below applies) of the signed NOI, and:

1. Send the original to TCEQ, via certified return receipt, in the attached envelope.
   - Note that a Payment Submittal Form, along with the $100 application fee, must be sent separately to the address on the second page of the NOI.
2. Post a copy of the signed NOI at the entrance of the project, along with the enclosed Site Notice (located in the back of binder).
   - If Paradigm Engineering is supplying the posting sign and conducting the inspections, please fax us a copy. Please make a notation on the fax cover page that this is the signed NOI for posting.
   - On this copy (for your security) mark out the Federal or State Franchise Numbers.
3. Put a copy in each SWPPP binder (if you have multiples).
4. Keep a copy for your records at a different location than the on-site SWPPP.
5. Mail (Attn: Production) or fax a copy to Paradigm Engineering (fax cover included).
6. Send a copy to the MS4 operator (if applicable)*

   *A list of the MS4 cities with their addresses and contacts are located in the back of the SWPPP book. If you cannot locate your city, contact Paradigm Engineering office.

Notice of Termination (NOT)

When project/site is complete, please do the following:

1. Have an officer, general partner or owner sign and date in blue ink the NOT (located in the back of the SWPPP).
2. Mail the original to the address on the form.
3. Keep a copy of the signed NOT for your records.
4. Mail/fax to Paradigm Engineering a copy of the signed NOT.
5. Retain the SWPPP, all reports and actions required by this permit, including a copy of the construction site notice, and all data used to complete the NOI (if required) for a minimum period of three (3) years from the date that a NOT is submitted.

Delegation Letters

The delegation letter delegates an authorized representative (identified either by name or job position) to perform the inspections and to sign reports.

Please copy the letter (verbatim) on your company letterhead, complete the items on the bottom, and have an officer, general partner or owner of the company sign and date in blue ink.

Make three (3) copies, and:

1. Send (recommend via certified mail) the signed original to:

   Executive Director
   Texas Commission on Environmental Quality
   Storm Water General Permits Team, MC – 148
   P.O. Box 13087
   Austin, Texas 78711-3087

2. Put one in each SWPPP binder (if you have multiples).
3. Keep one for your records at a different location than the on-site SWPPP.
4. Mail or fax one to Paradigm Engineering.

SWPPP Certification

Please have an officer, general partner or owner of the company sign the SWPPP certification page (located behind this page). When signed, a copy must be included in the SWPPP binder. If you are, or your company is both the owner *and* the operator, then only the owner section needs to be signed. However, if the Owner and the Operator are different entities, then both entities need to sign in their designated section.

Inspections

Upon receiving your SWPPP binder from Paradigm, and you would like us to perform your required inspections, we must be notified in writing. In your SWPPP binder, located in the back pocket, should be Inspection Start and Inspection Stop Forms. Please fill these forms out and fax them to us when you need us to start or stop inspections. If the forms are not located in your binder, please call our office and we can send them to you by fax or e-mail.

The options of either a 14-day and rain-event inspections of a ½ inch or more, or the 7-day inspections are required to maintain the SWPPP and the permit guidelines. The inspector must have his qualifications in the SWPPP binder.

If you indicated on your SWPPP request form that Paradigm Engineering will be conducting the inspections, or if Paradigm Engineering conducts your inspections on a regular basis, then Paradigm Engineering will have the qualifications of its Field Inspectors in the SWPPP.

SWPPP Binder

Prior to soil disturbing activities, your SWPPP binder <u>must</u> contain the following signed documents:

1. Owner's NOI
2. Operator's NOI (if operator is different than owner)
3. Owner's SWPPP certification
4. Operator's SWPPP certification (if operator is different than owner)
5. Owner's Delegation letter
6. Operator's Delegation letter (if operator is different than owner)
7. Inspectors qualifications

If you have any questions or need further assistance, please contact:

Paradigm Engineering
1965 Lakepointe Drive
Lewisville, Texas 75057
Toll Free (888) 243-3605
Office # (972) 829-8100
Fax # (972) 829-8101

(These two instruction pages can be removed from the SWPPP)

Storm Water Pollution Prevention Plan Certification

Owner

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign this document and can provide documentation in proof of such authorization upon request."

Project or Site: **The Home Depot Bulverde, Texas**

Owner Name: The Home Depot U.S.A., Inc.

Signature: ______________________________

Printed Name: Kent Swank

Title: Director of Construction

Date: ______________________________

Storm Water Pollution Prevention Plan Certification

Contractor/Subcontractor

> *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*
>
> *I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign this document and can provide documentation in proof of such authorization upon request."*

Project or Site: **The Home Depot Bulverde, Texas**

Operator Name: ______________________

Company Address: ______________________

Company Phone: ______________________

Signature: ______________________

Printed Name: ______________________

Title: ______________________

Date: ________________

Storm Water Pollution Prevention Plan Certification

Contractor/Subcontractor

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign this document and can provide documentation in proof of such authorization upon request."

Project or Site: **The Home Depot Bulverde, Texas**

Operator Name: ______________________

Company Address: ______________________

Company Phone: ______________________

Signature: ______________________

Printed Name: ______________________

Title: ______________________

Date: ________________

Storm Water Pollution Prevention Plan Certification
Contractor/Subcontractor

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign this document and can provide documentation in proof of such authorization upon request."

Project or Site: **The Home Depot Bulverde, Texas**

Operator Name: ______________________

Company Address: ______________________

Company Phone: ______________________

Signature: ______________________

Printed Name: ______________________

Title: ______________________

Date: ______________

Storm Water Pollution Prevention Plan Certification

Contractor/Subcontractor

> *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*
>
> *I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign this document and can provide documentation in proof of such authorization upon request."*

Project or Site: **The Home Depot Bulverde, Texas**

Operator Name: ______________________

Company Address: ______________________

Company Phone: ______________________

Signature: ______________________

Printed Name: ______________________

Title: ______________________

Date: ________________

Storm Water Pollution Prevention Plan Certification

Contractor/Subcontractor

> *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*
>
> *I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign this document and can provide documentation in proof of such authorization upon request."*

Project or Site: **The Home Depot Bulverde, Texas**

Operator Name: ______________________________

Company Address: ______________________________

Company Phone: ______________________________

Signature: ______________________________

Printed Name: ______________________________

Title: ______________________________

Date: ____________________

Storm Water
Pollution Prevention Plan

For

The Home Depot U.S.A., Inc.
2800 Forest Lane
Dallas, Texas 75234

For

The Home Depot Bulverde, Texas

Commercial

In

City of Bulverde
Comal County, Texas

Prepared by:

Paradigm Engineering
1965 Lakepointe Drive
Lewisville, Texas 75057
(972) 829-8100

June 8, 2005

MAIN INDEX – COMMERCIAL

SUBHEADING INDEX – COMMERCIAL

This page intentionally left blank.

Attach NOI for general site information.

A. Permit Regulations

Federal law prohibits the discharge of pollutants, including the discharge of stormwater associated with large or small construction activities pursuant to 40 CFR Part 122 and as defined in Part I (Specific Conditions) of the permit, to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit.

B. Copy of Regulations

A copy of the permit requirements (attaching a copy of the permit is acceptable).

A copy of the permit regulations is attached to this SWPPP.

C. Obtaining Authorization

Each permittee will certify the SWPPP and issue delegation letters to the appropriate parties for inspections and implementation of the permit. The SWPPP covers the entire site or all parts of the site, which the permittees are operators of. The SWPPP will be implemented upon commencement of construction activities. Any new operator on the site will submit a separate Notice of Intent (NOI) and certify the SWPPP before beginning work on the site. Delegation letters to the appropriate entities implementing the SWPPP will also be issued by any new permittee.

This SWPPP *is a joint* SWPPP *developed for both the "owner" and "operator" of the site. Permit authorization will allow any contractor or subcontractor to be covered under the permit, however the permittee would have primary responsibility for compliance. The Texas regulations allow co-permittees at a site. The owner would need to make a determination whether or not the contractors and/or subcontractors are to file a separate Notice of Intent, therefore becoming co-permittees and sharing the compliance requirements.*

D. Certification of Compliance with Federal, State and Local Regulations

The Storm Water Pollution Prevention Plan reflects requirements for storm water management and erosion and sediment controls, as established in Texas. To ensure compliance, this plan was prepared in accordance with the TPDES General Permit to Discharge Waste and with US EPA, Storm Water Management for Construction Activities.

E. Compliance With State/Tribal and/or Local Regulations

Permittees which discharge storm water associated with construction activities must ensure their storm water pollution prevention plan is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or storm water management site plans or site permits approved by state, tribal and/or local officials.

Some cities and counties have existing ordinances and practices that require permits for construction activities and a regulatory process for reviewing plans, approving permits and inspecting construction sites. The erosion and sediment control plans for temporary and permanent structures must be approved to obtain the grading and building permits.

This SWPPP is in compliance with all applicable state/tribal and/or local regulations concerning storm water runoff. Copies of any applicable regulations are attached to this SWPPP.

F. Notice of Intent (NOI) Requirements

1. Deadlines for Notification

The following permittees are required to file for permit coverage since they meet the definition of either "owner" and/or "operator." The "owner" controls the plans and specifications and the "operator" controls the day-to-day operation of the site. All NOIs will be signed by an appropriate officer of each permittee and mailed at least two (2) days prior to start of construction. NOIs should be mailed certified mail with a copy of the signed NOI kept with the SWPPP to verify permit coverage. If the operator of the site changes, then the new operator will file his or her own NOI and obtain permit coverage at least two (2) days before taking over control of the site. NOIs may also be submitted electronically using STEERS. Authorization to discharge storm water is effective two (2) days from the date that a completed NOI is postmarked for delivery to the TCEQ. If electronic submission of the NOI is provided, and unless otherwise notified by the executive director, operators are provisionally authorized 24 hours following confirmation of receipt of the NOI by the TCEQ.

Permittee	Authorized Signature	Position
Owner	Kent Swank The Home Depot U.S.A., Inc.	Director of Construction
Operator		
Operator		

2. Construction Site Notice (CSN) *For small construction activities, each permittee will complete, sign and post a Construction Site Notice using the appropriate TCEQ form.*

3. Contents of Notice of Intent (NOI) *For large construction activities, each permittee will complete, sign and submit an NOI using the appropriate TCEQ form, with all the appropriate information submitted least two (2) days before construction begins or he or she takes control of the site. A copy of the signed NOI will remain with the SWPPP for each permittee.*

4. Where to Submit *NOIs, NOCs and delegation letters for inspectors and/or operators will be submitted to TCEQ, signed by an authorized officer of each company and sent certified mail. A copy of the delegation letters will be maintained with the SWPPP.*

Item	Mailing Address
Notices of Intent (NOIs), and Notices of Change (NOCs)	Texas Commission on Environmental Quality Storm Water & General Permits Team, MC-228 P.O. Box 13087 Austin, Texas 78711-3087
Delegation Letters	Texas Commission on Environmental Quality Executive Director Storm Water General Permits Team, MC-148 P.O. Box 13087 Austin, Texas 78711-3087

A signed and certified copy of the NOI, NOC, and Construction Site Notice, as applicable, will also be sent within the timeframe given in the regulations, to the MS4 operator receiving storm water discharge.

5. Addresses

All written correspondence concerning discharges in any state, Indian Country land or from any federal facility covered under this permit and directed to the TCEQ, including the submittal of individual permit applications, shall be sent to the address listed below:

Texas Commission on Environmental Quality
Storm Water and General Permits Team; MC-148
P.O. Box 13087
Austin, TX 78711-3087

A. Storm Water Pollution Prevention Plans

At least one SWPPP shall be developed for each construction project or site covered by this permit. For more effective coordination of Best Management Practices (BMPs) and opportunities for cost sharing, a cooperative effort by the different operators at a site to prepare and participate in a comprehensive SWPPP is encouraged. Individual operators at a site may, but are not required, to develop separate SWPPPs that cover only their portion of the project provided reference is made to other operators at the site. In instances where there is more than one SWPPP for a site, coordination must be conducted between the permittees to ensure the storm water discharge controls and other measures are consistent with one another (e.g., provisions to protect listed species and critical habitat). The SWPPP shall identify potential sources of pollution, which may reasonably be expected to affect the quality of storm water discharges from the construction site. The SWPPP shall describe and ensure the implementation of practices, which will be used to reduce the pollutants in storm water discharges associated with construction activity at the construction site and assure compliance with the terms and conditions of this permit. When developing SWPPPs, applicants must follow the procedures in Appendix C of the EPA NPDES General permit to determine whether listed endangered or threatened species or critical habitat would be affected by the applicant's storm water discharges or storm water discharge-related activities. Any information on whether listed species or critical habitats are found in proximity to the construction site must be included in the SWPPP. Any terms or conditions that are imposed under the eligibility requirements of Part I.C.6. and Appendix C of the EPA NPDES General Permit to protect listed species or critical habitat from storm water discharges or storm water discharge-related activity must be incorporated into the SWPPP. Permittees must implement the applicable provisions of the SWPPP required under this part as a condition of this permit.

This NOI will have one primary SWPPP, and all operators will share the SWPPP and responsibilities.

B. Deadlines for Plan Preparation and Compliance

For large construction activities, the SWPPP will be prepared before submittal of an NOI and updated as appropriate. For small construction activities, the SWPPP will be prepared before the start of construction. The SWPPP will be certified by each permittee. The SWPPP will be updated as needed based on changes in operations, deficiencies noted during site inspections, in response to spills, or as notified by the executive director. The SWPPP will be in place before construction activities begin.

C. SWPPP Signature

The SWPPP shall be signed in accordance with § 30 TAC 305.44 (Signatures) and retained on the site at the facility, which generates the storm water discharge in accordance with Part V. (Retention of Records) of the permit. Small construction activities must complete the Construction Site Notice. Large construction activities must complete the NOI.

A copy of the signed NOI or Construction Site Notice must be kept with the SWPPP to verify permit coverage and certification of the SWPPP. A copy of the NOI or Construction Site Notice and NOC must be submitted to the local MS4.

D. Notification by Executive Director that SWPPP is Not Sufficient

The executive director may notify the permittee at any time that the SWPPP does not meet one or more of the minimum requirements of this Part. Such notification shall identify those provisions of this permit that are not being met by the SWPPP as well as those requiring modification in order to meet the minimum requirements of this Part. Within seven (7) calendar days of receipt of such notification from the executive director (or as otherwise provided by the executive director), the permittee shall make the required changes to the SWPPP and shall submit to the executive director a written certification that the requested changes have been made. The executive director may take appropriate enforcement action for the period of time the permittee was operating under a plan that did not meet the minimum requirements of the permit.

E. Contents of Plan

The SWPPP shall include the following items:

1. Site Description

Each SWPPP shall provide a description of potential pollutant sources and other information as indicated below:

(a) Existing Foliage

The following is a description of foliage that exists at the site:

Existing Foliage

Type of Grass / Vegetation	Approximate Density %	Site Coverage %
Native Grass / Weeds	50%	20%
Brush	40%	20%
Trees	40%	60%
No Vegetation – Soil	N/A	0%
No Vegetation – Pavement/Structures	N/A	0%

Add to 100%

(b) Existing Soil Condition *Primarily a silty clay type soil with low erosion potential.*

(c) Existing On-Site Systems *The following are the systems that exist on the site:*

Existing On-Site Systems		
Systems Present	**Yes/No**	**Brief Description**
Pipe Systems	Yes	Drainage and runoff is handled by a pipe and inlet system.
Other systems (channel, creek, watercourse, etc.)	Yes	One detention pond and one water quality pond are located side by side in the northwest corner of the site.

(d) Existing Off-Site Systems *The following are the systems that exist off the site that could potentially impact the site:*

Existing Off-Site Systems		
Systems Present	**Yes/No**	**Brief Description**
Off-Site Drainage Channel	No	No direct off-site drainage channel was noted at the time of site evaluation.
Roadways	Yes	Roadways and curbs direct drainage and runoff.

(e) Existing Areas of Erosion *The following are existing areas which show signs of erosion:*

Existing Areas of Erosion		
Area Presently Showing Signs of Erosion	**Yes/No**	**Brief Description (location, approximate area, and probable cause)**
Gullies	No	No gullies were noted during the site inspection.
Sediment Buildup in Roadways	No	No sediment buildup was noted during the inspection.
Soil Loss Around Structures	No	No soil loss was noted during the site inspection.
Eroding Creek Bank	No	There are no creeks nearby that show signs of an eroding creek bank.
Other	No	N/A

2. Off-Site Storage Areas

Any off-site storage areas associated with this project will be indicated on the map and the material management and spill response procedures in this SWPPP will apply.

3. Pre- and Post-Runoff Coefficient and Soil Characteristics

An estimate of the runoff coefficient of the site for both the pre-construction and post-construction conditions and data describing the soil or the quality of any discharge from the site.

The following are the estimated runoff coefficients:

Pre- and Post-Runoff Coefficients	
Runoff Coefficient Before Construction Activities Begin (Range)	0.2-0.3
Runoff Coefficient after Construction Activities Begin (Range)	0.4-0.5

Runoff Coefficients (Completed)

Pervious	Impervious	C Value Pervious	C Value Impervious	Revised Runoff Coefficient
0.25	0.75	0.45	0.85	0.75

4. Industrial Activity Associated with Construction

Location and description of any discharge associated with industrial activity other than construction, including storm water discharges from dedicated asphalt plants and dedicated concrete plants, which are covered by this permit.

If there are any concrete or asphalt plants associated with this project, they will be indicated in section Part V.E. Concrete batch plants are subject to numeric effluent limitations and must be sampled annually for Total Suspended Solids, Oil and Grease and pH. Results of monitoring must be recorded on a discharge monitoring report (DMR). Monitoring must be conducted prior to December 31st for each annual monitoring period. A copy of the DMR must either be retained at the facility or must be made readily available for review by authorized TCEQ personnel upon request, by March 31st following the end of each annual monitoring period. If the results indicate the violation of one or more of these numeric limitations, the permittee must also submit the DMR to the TCEQ Information Resources Center by March 31st of each annual monitoring period.

5. Endangered Species Information

Information on whether listed endangered or threatened species, or critical habitat, are found in proximity to the construction activity and whether such species may be affected by the applicant's storm water discharges or storm water discharge-related activities.

A review of the site found no evidence that this project will have an adverse impact on any listed threatened or endangered plant or animal species. The list of possible threatened and endangered species and the results of Appendix C are included in Part VII. of this SWPPP.

6. Historic Preservation Information

Information on whether storm water discharges or storm water discharge related activities would have an affect on a property that is listed or eligible for listing on the National Register of Historic Places; where effects may occur, any written agreements with the State Historic Preservation Officer, Tribal Historic Preservation Officer, or other tribal leader to mitigate those effects.

A review of the site found no evidence that this project will have an adverse impact on any historic sites listed on the National Register of Historic Sites. The list of sites registered with the National Register of Historic Places is attached in Part VIII of this SWPPP.

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A. Posted Notice

For small construction activities, the permittee must post a signed and certified Construction Site Notice near the main entrance of the construction site with the following information:

a. The name and telephone number of a local contact person;

b. A brief description of the project; and

c. The location of the SWPPP if the site is inactive or does not have an on-site location to store the plan.

For large construction activities, the permittee must post a copy of the signed and certified NOI near the main entrance of the construction site. It is acceptable to blank out the Federal Tax ID, State Franchise Tax ID Number and the DUNS Number as shown in box "A."

B. Location of SWPPP

The permittee shall retain a copy of the storm water pollution prevention plan required by the permit (including a copy of the permit language) at the construction site (or other local location accessible to the executive director, a federal, state, tribal or local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; or the operator of a municipal separate storm sewer receiving discharges from the site) from the date of project initiation to the date of final stabilization. Permittees with day-to-day operational control over SWPPP implementation shall have a copy of the SWPPP available at a central location on the site for the use of all operators and those identified as having responsibilities under the SWPPP whenever they are on the construction site.

C. Making SWPPP Available

The permittee shall make SWPPPs available upon request by the executive director, a federal, state, tribal or local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; or the operator of a municipal separate storm sewer receiving discharges from the site. The SWPPP that is required to be kept on the site or locally available must be made available to the executive director for review at the time of an on-site inspection.

D. Inspection Reports

A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP shall be made and retained as part of the SWPPP for at least three (3) years from the date that the site is finally stabilized. Major observations should include: the location(s) of discharges of sediment or other pollutants from the site; location(s) of BMPs that need to be maintained; location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location; and location(s) where additional BMPs are needed that did not exist at the time of inspection. Actions taken as a result of inspections must be described within, and retained as part of, the SWPPP for at least three (3) years from the date that the site is finally stabilized. Such reports shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP and the permit. The report must be signed by the person and in the manner required by 30 TAC § 305.028 (relating to Signatories to Reports). Standardized forms for inspections reports are attached to the SWPPP.

Site inspection reports will be kept with the SWPPP. The qualifications of the inspector are included as an attachment to the SWPPP.

E. Retention of Records

The permittee shall retain copies of storm water pollution prevention plans and all reports required by this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three (3) years from the date that the site is finally stabilized. This period may be extended by request of the executive director at any time.

A. Responsibilities Each permittee is responsible for all aspects of compliance with the permit and must fulfill all requirements of the permit unless the permittees agree to cooperate and share the responsibilities. Even if responsibilities are shared, non-compliance on the part of one permittee does not alleviate the other permittees of responsibility for compliance with all requirements of the permit.

The following is a breakdown of the responsibilities of each permittee.

Best Management Practices Delineation of Responsibilities		
Activity	**Responsibility**	**Permit Number**
Owner Permittee with operational control over the plans and specifications including the ability to make modifications will:	***Company Name***	***Permit # or Pending***
1. File Notice of Intent (NOI) to obtain permit coverage.	The Home Depot U.S.A., Inc.	Pending
2. Certify SWPPP.	The Home Depot U.S.A., Inc. and Paradigm Engineering	
3. Preparation of the Storm Water Pollution Prevention Plan (SWPPP).	The Home Depot U.S.A., Inc. and Paradigm Engineering	
4. Ensure SWPPP meets minimum requirements of permit.	The Home Depot U.S.A., Inc. and Paradigm Engineering	
5. Ensure SWPPP includes all areas of the project and ensure each permittee is aware of his/her requirements under the SWPPP.	The Home Depot U.S.A., Inc.	

Best Management Practices (Cont'd)
Delineation of Responsibilities

Activity	Responsibility	Permit Number
Owner **Permittee with operational control over the plans and specifications including the ability to make modifications will:**	***Company Name***	***Permit # or Pending***
6. Ensure names and permit numbers of each permittee with day-to-day operational control of the site are included in the SWPPP.	The Home Depot U.S.A., Inc.	
7. Delegate the authority to sign reports and implement the SWPPP to appropriate individuals/companies.	The Home Depot U.S.A., Inc.	
8. Update the SWPPP as necessary based on changes during construction and based on input from inspection reports.	The Home Depot U.S.A., Inc.	
9. File Notice of Termination once project has achieved final stabilization.	The Home Depot U.S.A., Inc.	

Best Management Practices Delineation of Responsibilities		
Activity	**Responsibility**	**Permit Number**
Operator Permittees with day-to-day operational control of the site will:	***Company Name***	***Permit # or Pending***
1. File Notice of Intent (NOI) to obtain permit coverage.		Pending
2. Certify SWPPP.	Paradigm Engineering and	
3. Install structural Best Management Practices (BMPs) including installation of any silt fencing, grass mesh, cutting back of curbing, rocks dams, or curb inlet covers as may be specified in the SWPPP.		
4. Initiate temporary/permanent stabilization practices within 14 days where construction activities have temporarily or permanently ceased, unless disturbing activities will resume within 21 days.		
5. Maintain structural BMPs during the life of the construction project.		

Best Management Practices (Cont'd)
Delineation of Responsibilities

Activity	Responsibility	Permit Number
Operator **Permittees with day-to-day operational control of the site will:**	***Company Name***	***Permit # or Pending***
6. Perform procedural BMPs needed to supplement structural BMPs such as street sweeping.		
7. Removal of BMPs once construction is complete.		
8. Perform inspections: a. Bi-weekly b. After rain event c. Weekly d. Monthly		
9. Delegate the authority to sign reports and implement the SWPPP to appropriate individuals/companies.		
10. Update the SWPPP as necessary based on changes during construction and based on input from inspection reports.		
11. File a Notice of Termination (NOT) once site is stabilized or when operator no longer has day-to-day operational control of the site.		

PART V.
Definition of Permit Area

A. Project Information

The Home Depot Bulverde, Texas *is a commercial development in which equal to or greater than 1-acre or more is disturbed or is part of a common plan of development. Therefore, it meets eligibility requirements and a Texas Storm Water Permit is required. This Storm Water Pollution Prevention Plan is prepared to satisfy the conditions of that permit.*

B. Receiving Water

The name of the receiving water(s) and the areal extent and description of wetlands or other special aquatic sites (as described under 40 CFR 230.3(q–1)) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project.

The storm water runoff from this site will impact the ***Lewis Creek****. Erosion controls along with solid waste and hazardous material management practices have been identified to minimize, reduce or eliminate these impacts. If inspections reveal that additional BMPs are needed, they will be added during the construction phase in a timely manner. Any wetlands or other water bodies will be shown on the site map.*

C. Name of Agency(ies) With Jurisdiction Authority

The State of Texas has authority to administer the National Pollutant Discharge Elimination System (NPDES) stormwater program under Section 26.040 of the Texas Water Code and Section 402 of the Clean Water Act. The Texas Commission on Environmental Quality (TCEQ) issues authorization to discharge storm water under the TPDES General Permit No. TXR150000.

D. Nature of the Construction Activity

Development activities will include installation of erosion and sediment controls. The Home Depot covered under this SWPPP will be responsible for clearing, grubbing and grading of the site; cut under building area and fill replacement; excavation and backfill for installation of utilities; road improvement; construction of a detention pond and water quality pond; construction of septic system and water tank; construction of The Home Depot building, Garden Center and parking areas; site stabilization and landscaping. The site is vacant, therefore demolition will not be required. It is anticipated that about 20 feet of cut under the east side of the building area and about 18 feet of fill under the west side of the building area will be required. Due to grade changes at the site, the use of MSE walls or cantilevered retaining walls will be required. The site is located on the Edwards Aquifer recharge zone therefore both water quality and detention ponds will be required. The ponds are located side by side in the northwest corner of the site. Storm water runoff generated by the construction of impervious surfaces on the site must be mitigated before it is allowed to leave the property. Storm water detention and retention facilities must be designed to reduce post-development runoff to predevelopment levels. The Home Depot will be constructing the northbound Old Boerne Road approach with one left turn lane and one right turn lane. The site is not located on any wetlands, floodplains or jurisdictional waters. The Home Depot will not retain any outparcels.

E. Discharges Associated with Construction Support Activity

The following is a discussion of any related industrial activity present at this site:

Related Industrial Activity	Description	Used at Site? Yes/No
On-Site Concrete or Asphalt Batch Plants	An on-site concrete batch plant is sometimes used during development of large projects to produce concrete on the site. The runoff from the on-site batch plant must be treated with BMPs suitable for on-site concrete batch plant operation. Coverage is authorized under this permit as long as the on-site batch plant is used solely for this project. If the batch plant mixes material for any other site, it must have a separate industrial SWPPP and permit. Runoff from the batch plant area must be contained with a temporary holding pond and the water recycled in the process water for mixing concrete. The pond should be designed and monitored to ensure there are no discharges during storm events.	No
Equipment Staging Areas	Entrances into the equipment staging area may need a crushed rock entry to prevent off-site tracking of sediment. Any petroleum products stored in the equipment staging area must be in closed containers in good condition to prevent leaking. Maintenance on equipment should be done with drip pans, and used fluids captured and properly disposed of off the site. Fuel tanks will have secondary containment, and any fuel tank over 1320 gallons, will have a Spill Prevention Control and Countermeasures (SPCC) plan developed and available on the site.	Yes
Material Storage Areas	Material storage areas should be maintained to keep material limited on the site to materials needed for the job. Liquid containers must be kept closed when fluids are not being removed and drip pans must be under any containers with valves or spigots attached. Spills and leaks will be cleaned up promptly and materials removed from the site. The spill response poster will be posted in the area.	Yes

Related Industrial Activity (Cont'd)	Description	Used at Site? Yes/No
Excavated Material Disposal Areas	Areas where excavated material (fill) will be stored will be shown on the map. If the area is dedicated to this project, a location map and controls map will be included in the SWPPP. Fill areas located onsite will have temporary vegetation established if the fill pile would be left for over 21 days without being disturbed.	No
Material Borrow Areas	Areas where borrow material will be taken from will be shown on the map. If the area is dedicated to this project, a location map and controls map will be included in the SWPPP. Borrow areas located onsite will have temporary erosion controls put in place to control sediment from leaving site.	No

F. Estimated Total Area to be Disturbed

Estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading, or other activities including off-site borrow and fill areas.

The total area of this site is 52.64 acres of which 35.5 acres are expected to be disturbed in this project, which includes all areas disturbed by excavation, grading, or other activities including off-site borrow and fill areas.

Area to be Disturbed	
Total Project Acres	52.64 acres
Total Acres Disturbed	35.5 acres

G. General Location and Site Maps

A general location map (e.g., a portion of a city or county map) and a site map indicating the following: drainage patterns and approximate slopes anticipated after major grading activities; areas of soil disturbance; areas which will not be disturbed; locations of major structural and nonstructural controls identified in the SWPPP; locations where stabilization practices are expected to occur; locations of off-site material, waste, borrow or equipment storage areas; surface waters (including wetlands); and locations where storm water discharges to a surface water.

Location and site maps of this project are included in the attachments to this SWPPP.

Latitude	Longitude
29.79346 degrees N	- 98.43772 degrees W

A. Permit Area

This project is eligible for coverage under this general permit since the project is located in Texas; an EPA delegated state, and is not on Indian lands.

B. Eligibility

1. Storm Water Associated with Construction Activities

This project is also eligible for permit coverage since it meets the definition of small and large construction activities as defined by TPDES General Permit No. TXR150000. There are no other discharges authorized under a separate NPDES permit or TPDES permit, or unauthorized discharges present at this site.

2. Discharges of Storm Water Associated with Construction Support Activity

Related activities are eligible for coverage under this general permit provided:

- the activity is located within a 1-mile distance from the boundary of the permitted site and directly supports the construction activity;
- the SWPPP is developed according to the provisions of the general permit and includes appropriate controls and measures for the support activity; and
- not operated past the completion date of the construction activity.

C. Limitations on Permit Coverage

1. Discharges Covered by Another Permit

This project is not covered under an individual NPDES permit, or TPDES permit, or under an alternative general permit.

2. Discharges Threatening Water Quality

The executive director (TCEQ) has not made a determination that this project will cause, or have reasonable potential to cause or contribute to, violations of water quality standards. If notified by the executive director, then an application for an individual permit will be filed in a timely manner, or appropriate controls will be included in the SWPPP and put in place to bring the project into compliance with water quality standards.

3. Compliance with Water Quality Standards

Discharges to surface water in the state that would cause or contribute to a violation of water quality standards or that would fail to protect and maintain existing designated uses are not eligible for coverage under this general permit.

1. Discharges to Water Quality-Impaired Receiving Waters
   New source or new discharges of constituents of concern to impaired waters are not authorized by this permit unless otherwise allowable under 30 TAC Chapter 305 and applicable state law. Impaired waters are those that do not meet applicable water quality standards and are listed on the EPA approved Clean Water Act Section 303(d) list. Constituents of concern are those for which the water body is listed as impaired.

   This SWPPP is designed to eliminate constituents of concern from entering any impaired water body.

2. Discharges to the Edwards Aquifer Recharge Zone
   For new discharges located within the Edwards Aquifer Recharge Zone, or within that area upstream from the recharge zone and defined as the Contributing Zone, operators must meet all applicable requirements of, and operate according to, 30 TAC Chapter 213 (Edwards Aquifer Rule) in addition to the provisions and requirements of this general permit.

   This SWPPP does incorporate requirements of the Edwards Aquifer Rule, to reduce impacts to the Edwards Aquifer and Contributing Zone.

   For existing discharges, the requirements of the agency-approved Water Pollution Abatement Plan under the Edwards Aquifer Rules are in addition to this general permit.

   The applicants will submit a copy of the NOI to the appropriate TCEQ regional office.

3. Discharges to Specific Watersheds and Water Quality Areas
   Discharges otherwise eligible for coverage cannot be authorized by this general permit where prohibited by 30 TAC Chapter 311 (relating to Watershed Protection) for water quality areas and watersheds.

   Discharges from this project are not prohibited by 30 TAC Chapter 311.

4. Protection of Streams and Watersheds by Other Governmental Entities.

   This general permit does not limit the authority or ability of federal, other state or local governmental entities from placing additional or more stringent requirements on construction activities or discharges from construction activities.

   There are no other federal, state or local governmental entity requirements for this construction activity known at this time. If there are additional requirements in the future, the SWPPP will be modified to accommodate these additional requirements.

5. Indian Country Lands

   Storm water runoff from construction activities occurring on Indian Country lands are not under the authority of the TCEQ and are not eligible for coverage under this general permit.

   This project is not located on Indian Country Land.

6. Oil and Gas Production

   Storm water runoff from construction activities associated with the exploration, development or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline, are not under the authority of the TCEQ and are not eligible for coverage under this general permit.

   This project is not associated with oil and gas production.

7. Storm Water Discharges from Agricultural Activities

   Storm water discharges from agricultural activities that are not point source discharges of storm water are not subject to TPDES permit requirements.

   This project is not associated with agricultural activities.

8. Consistency with the Texas Coastal Management Program

   This project is not located within one of the following Texas Counties: Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Harris, Jackson, Jefferson, Kenedy, Kleberg, Matagorda, Nueces, Orange, Refugio, San Patricio, Victoria, and Willacy. As such, no additional requirements are needed to this SWPPP to be consistent with the requirements of the Texas Coastal Management Program.

4. Discharge Compliance with Water Quality Standards

The following discharges from this construction project were evaluated to determine the potential to cause or contribute to a violation of a water quality standard. If these measures prove to be insufficient to protect water quality standards or if the executive director notifies the permittees, the SWPPP will be amended to make the changes necessary to protect water quality standards.

Activity	Potential Water Quality Standard Violated	Actions Taken to Prevent Impact on Water Quality Standard
Soil disturbing activities including clearing, grubbing and grading for the building site and parking areas, road improvements, construction of septic system and water tank, cut under and fill under pad, retaining wall, utility installation, and final grading.	· Total Suspended Solids (TSS) · Biological Oxygen Demand(BOD) · Metals	· Sediment and erosion control measures · Site entrance controls · Spill response procedures
Concrete placement for foundations and parking areas including washout from concrete trucks.	· pH · Total Suspended Solids (TSS) · Chemical Oxygen Demand (COD) · Oil & Grease	· Sediment and erosion control measures · Dedicated concrete washout areas · Site entrance controls
Facility construction including erection and finishing of the Home Depot building, Garden Center, walls, roof, floors and ceilings.	· Total Suspended Solids (TSS) · Chemical Oxygen Demand (COD) · Biological Oxygen Demand (BOD) · Oil & Grease	· Sediment and erosion control measures · Solid waste management procedures · Site entrance controls · Material Management procedures
Final stabilization of the site including installing grass and other landscaping materials.	· Total Suspended Solids (TSS) · Nitrogen · Biological Oxygen Demand (BOD) · Pesticides · Herbicides	· Sediment and erosion control measures · Solid waste management procedures · Site entrance controls · Application procedures for fertilizers, pesticides and herbicides

A. Endangered and Threatened Species and Critical Habitat Protection

For purposes of complying with Appendix C – Endangered Species Act Review Procedures of the EPA NPDES General Permit, this project is eligible for permit coverage under the certification for endangered species criterion "A."

Criterion A. The storm water discharges and storm water discharge-related activities are not likely to adversely affect listed species or critical habitat.

Steps	Appendix C Endangered Species Act Review Procedures
Step One: Determine if Listed Threatened or Endangered Species are Present On or Near Your Project Area	Based on the site observations by the project manager preparing this SWPPP, no Federally Listed Endangered or Threatened Species are present in the project area.
Step Two: Determine if the Construction Activity's Storm Water Discharges or Storm Water Discharge-Related Activities Are Likely to Adversely Affect Listed Threatened or Endangered Species or Designated Critical Habitat	Based on the site inspection by the project manager preparing this SWPPP, and a review of the site location in relation to any known critical habitat, it was determined that this project is not likely to adversely impact a listed species or critical habitat.
Step Three: Determine if Measures Can Be Implemented To Avoid Adverse Effects	Sediment and erosion controls will be installed on this project along with material handling, waste management and wash water controls to avoid adverse impacts from this project on any listed species or critical habitat.
Step Four: Determine if the Eligibility Requirements of Criterion B, C, D, or F of Subpart 1.3.C.6 Can Be Met	Since no adverse impacts are anticipated from this site, formal consultation with the U.S. Fish and Wildlife is not required.

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COMAL COUNTY

*** AMPHIBIANS ***

	Federal Status	State Status
Cascade Caverns Salamander (*Eurycea latitans*) - endemic; subaquatic; springs and caves in Comal, Kendall, and Kerr counties;		T
Comal Blind Salamander (*Eurycea tridentifera*) - endemic; semi-troglobitic; found in springs and waters of caves in Bexar and Comal counties		T
Comal Springs Salamander (*Eurycea* sp. 8) - endemic; Comal Springs		
Edwards Plateau Spring Salamanders (*Eurycea* sp. 7) - endemic; troglobitic; springs, seeps, cave streams, and creek headwaters; often hides under rocks and leaves in water; Edwards Plateau, from near Austin to Val Verde County		

*** BIRDS ***

	Federal Status	State Status
American Peregrine Falcon (*Falco peregrinus anatum*) - potential migrant; nests in west Texas	DL	E
Arctic Peregrine Falcon (*Falco peregrinus tundrius*) - potential migrant	DL	T
Black-capped Vireo (*Vireo atricapillus*) - oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous & broad-leaved shrubs & trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, & required structure; nests mid April-late summer	LE	E
Golden-cheeked Warbler (*Dendroica chrysoparia*) juniper-oak woodlands; dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees & shrubs; nests late March-early summer	LE	E
Henslow's Sparrow (*Ammodramus henslowii*) – wintering individuals (not flocks) found in weedy fields or cut-over areas where lots of bunch grasses occur along with vines and brambles; a key component is bare ground for running/walking		
Whooping Crane (*Grus americana*) – potential migrant	LE	E
Zone-tailed Hawk (*Buteo albonotatus*) – arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions		T

*** CRUSTACEANS ***

	Federal Status	State Status
Peck's Cave Amphipod (*Stygobromus pecki*) - small, aquatic crustacean; lives underground in the Edwards Aquifer; collected at Comal Springs and Hueco Springs	LE	

	Federal Status	State Statu
***** FISHES *****		
Fountain Darter (*Etheostoma fonticola*) - known only from the San Marcos and Comal rivers; springs and spring-fed streams in dense beds of aquatic plants growing close to bottom, which is normally mucky; feeding mostly diurnal; spawns year-round with August and late winter to early spring peaks	LE	E
Guadalupe Bass (*Micropterus treculi*) – endemic; headwater, perennial streams of the Edwards Plateau		
***** INSECTS *****		
Comal Springs Dryopid Beetle (*Stygoparnus comalensis*) - dryopids usually cling to objects in a stream; dryopids are sometimes found crawling on stream bottoms or along shores; adults may leave the stream and fly about, especially at night; most dryopid larvae are vermiform and line in soil or decaying wood	LE	
Comal Springs Riffle Beetle (*Heterelmis comalensis)* - Comal and San Marcos Springs	LE	
Edwards Aquifer Diving Beetle (*Haideoporus texanus*) - habitat poorly known; known from an artesian well in Hays County		
***** MAMMALS *****		
Cave Myotis Bat (*Myotis velifer*) – colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore		
Plains Spotted Skunk (*Spilogale putorius interrupta*) - catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie		
***** MOLLUSKS *****		
Horseshoe Liptooth (*Polygyra hippocrepis*) – terrestrial snail known only from the steep, wooded hillsides of Landa Park in New Braunfels		
***** REPTILES *****		
Cagle's Map Turtle (*Graptemys caglei*) – endemic; Guadalupe River System; short stretches of shallow water with swift to moderate flow and gravel or cobble bottom, connected by deeper pools with a slower flow rate and a silt or mud bottom; gravel bar riffles and transition areas between riffles and pools especially important in providing insect prey items; nest on gently sloping sand banks within ca. 30 feet of water's edge	C1	
Spot-tailed Earless Lizard (*Holbrookia lacerata*) – central & southern Texas and Adjacent Mexico; oak-juniper woodlands & mesquite-prickly pear associations; eggs laid underground; eats small invertebrates		
Texas Garter Snake (*Thamnophis sirtalis annectens*) - wet or moist microhabitats are conducive to the species occurrence, but is not necessarily restricted to them; hibernates underground or in or under surface cover; breeds March-August		
Texas Horned Lizard (*Phrynosoma cornutum*) - open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September		T

Federal Status State Status

*** VASCULAR PLANTS ***

Bracted twistflower (*Streptanthus bracteatus*) – endemic; shallow clay soils over limestone, mostly on rocky slopes, in openings in juniper-oak woodlands; flowering April-May

Canyon mock-orange (*Philadelphus ernestii*) – solution-pitted outcrops of Cretaceous limestone on caprock along mesic canyons, usually in shade of mixed evergreen-deciduous canyon woodland; flowering April-May, fruit maturing in September

Hill country wild-mercury (*Argythamnia aphoroides*) - shallow to moderately deep clays and clay loams over limestone, in grasslands associated with plateau live oak woodlands, mostly on rolling uplands; flowering April-May; fruit persisting until midsummer

Lindheimer's tickseed (*Desmodium lindheimeri*) – known in Texas only from three locations; US habitat is uncertain; has been found along rocky bed of dry ravine and among brush on the banks, steep ravine banks, dry caliche flat roadsides, in shallow soil on outcrops; occurred in deep to partial shade and openings in live oak-juniper woodland associations on the Edward's Limestone; flowering August-October or November.

Texas Mock-orange (*Philadelphus texensis*) – endemic; limestone cliffs and boulders in mesic stream bottoms and canyons, usually in shade of mostly deciduous sloped forest; flowering April-May

LE,LT - Federally Listed Endangered/Threatened
PE,PT - Federally Proposed Endangered/Threatened
E/SA,T/SA - Federally Endangered/Threatened by Similarity of Appearance
C1 - Federal Candidate, Category 1; information supports proposing to list as endangered/threatened
DL,PDL - Federally Delisted/Proposed Delisted
E,T - State Endangered/Threatened
"blank" - Rare, but with no regulatory listing status

Species appearing on these lists do not all share the same probability of occurrence. Some species are migrants or wintering residents only, or may be historic or considered extirpated.

A. Historic Properties

This project will not have an adverse impact on a federally listed historic site as certified in the Historic Preservation Report. A list of Nationally Registered Historic Sites is included in this section.

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Historical Preservation Information for Comal County, Texas

Row	Resource Name	Address	City	Listed	Multiple
1	Breustedt, Andreas, House	1370 Church Hill Dr.	New Braunfels	1982-07-22	
2	Comal County Courthouse	N. Sequin Ave.	New Braunfels	1976-12-12	
3	Comal Hotel and Klein-Kuse House	295 E. San Antonio and 165 Market St.	New Braunfels	1986-06-26	
4	First Protestant Church	296 S. Sequin St.	New Braunfels	1971-07-14	
5	Groos, Carl W.A., House	228 S. Seguin St.	New Braunfels	2000-08-17	
6	Gruene Historic District	Both sides of Sequin, New Braunfels, and Austin Sts.	Gruene	1975-04-21	
7	Guadalupe Hotel	471 Main Plaza	New Braunfels	1975-03-13	
8	Holz--Forshage--Krueger Building	472 W. San Antonio St.	New Braunfels	1997-04-17	
9	Hotel Faust	240 S. Sequin St.	New Braunfels	1985-05-02	
10	Klein, Stephen, House	131 S. Seguin St.	New Braunfels	1970-08-25	
11	Lindheimer House	489 Comal Ave.	New Braunfels	1970-08-25	

A. Controls Each SWPPP shall include a description of appropriate control measures (i.e. BMPs) that will be implemented as part of the construction activity to control pollutants in storm water discharges. The SWPPP must clearly describe for each major activity: (a) appropriate control measures and general timing (or sequence) during the construction process that the measures will be implemented; and (b) which permittee is responsible for implementation of which controls (e.g. perimeter controls for one portion of the site will be installed by Contractor A after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls will be actively maintained by Contractor B until final stabilization of those portions of the site up gradient of the perimeter control; and temporary perimeter controls will be removed by the owner after final stabilization).

The description and implementation of control measures shall address the following minimum components:

Activity	Control Measures Taken	When Control Measures Implemented
Soil disturbing activities including clearing, grubbing and grading for the building site and parking areas, road improvements, construction of septic system and water tank, cut under and fill under pad, retaining wall, utility installation, and final grading.	· Sediment and erosion control measures · Site entrance controls · Spill response procedures	· Install silt fencing and site entrance pad before major construction begins. · Implement spill response as needed.
Concrete placement for foundations and parking areas including washout from concrete trucks.	· Sediment and erosion control measures · Dedicated concrete washout areas · Site entrance controls	· Install silt fencing and site entrance pad before major construction begins. · Dedicated washout area must be in place before concrete placement begins · Soil stabilization material to be contained on the site.

Activity (Cont'd)	Control Measures Taken	When Control Measures Implemented
Facility construction including erection and finishing of the Home Depot building, Garden Center, walls, roof, floors and ceilings.	· Sediment and erosion control measures · Solid waste management procedures · Site entrance controls · Material management procedures	· Install silt fencing and site entrance pad before major construction begins. · Trash receptacles should be on the site once work on structure begins. · Material management procedures go into effect once materials arrive on the site.
Final stabilization of the site including installing grass and other landscaping materials.	· Sediment and erosion control measures · Solid waste management procedures · Site entrance controls · Application procedures for fertilizers, pesticides and herbicides	· Install silt fencing and site entrance pad before major construction begins. · Trash receptacles should be on the site once work on structure begins. · Fertilizer, pesticide and herbicide procedures will be in effect once stabilization begins.

BMP Installation and Sequence Schedule

Activity	Duration	BMP Added	Installer
Install Erosion and Sediment Controls (BMPs)	Day 1	Install perimeter controls; stabilized construction entrance	
Clear and Grub	Week 1	Maintain perimeter controls	
Mass Grading	Weeks 2-7	Maintain perimeter controls; install interior controls	
Sewer Installation	Weeks 8-11	Maintain controls	
Joint Utilities	Weeks 12-17	Maintain controls	
Storm Drains	Weeks 18-21	Protect inlets when installed	
Water and Gas	Weeks 22-28	Maintain controls	
Subgrade and Building	Week 29	Maintain controls; Concrete washout area	
Curb and Gutter	Weeks 30-31	Maintain controls; Concrete washout area	
Base and Paving	Week 32	Maintain controls; Concrete washout area	
Sidewalks	Weeks 33-35	Maintain controls; Concrete washout area	
Set Boxes/Pull Utilities	Week 36	Maintain controls	
Concrete/Retaining Walls	Weeks 37-41	Maintain controls; Concrete washout area	
Landscaping/ Revegetation	Weeks 42-43	Maintain controls	
Stockpile Management	Weeks 1-43	Maintain controls	
Final Stabilization	Week 44	Maintain controls	
General	Week 45	Remove Controls	
	Weeks 1-45	Street Sweeping/ Overall Housekeeping	
	Weeks 1-45	Staked portable toilet	
	Weeks 1-45	Dumpster on site	

BMP Installation and Sequence Schedule			
Activity	**Duration**	**BMP Added**	**Installer**
Install Erosion and Sediment Controls (BMPs)			
Clear , Grub & Grading			
Mass Grading			
Sewer Installation			
Joint Utilities			
Storm Drains			
Water and Gas			
Subgrade and Building			
Curb and Gutter			
Base and Paving			
Sidewalks			
Set Boxes/Pull Utilities			
Concrete/Retaining Walls			
Landscaping/ Revegetation			
Stockpile Management			
Final Stabilization			
General			

1. Erosion and Sediment Controls

Short- and Long-Term Goals and Criteria:
The construction-phase erosion and sediment controls should be designed to retain sediment on the site to the maximum extent practicable.

The erosion and sediment controls selected for this project will be effective in removing at least 70% of the potential soil erosion from the site. The following are the soil loss estimates:

Effectiveness of Selected Erosion and Sediment Controls

Total Project Acres	52.64 acres
Total Acres Disturbed	35.5 acres
Estimated Soil Loss Before Controls	369.271 tons/year
Estimated Soil Loss With Controls	56.126 tons/year
Site Rating (Must be >0.70)	84.8%

Anticipated Yearly Loss Before Controls

A= Area (Acres)	Zs= Rate of Soil Loss Tons/Acre/Year	Za= Soil Loss Per Year Tons Per Year
35.5	10.402	369.271

Estimated Soil Loss After Controls

R	K	LS	Cs	P	Sd	Zs	Za
Rainfall Erosion Factor	Soil Erodibility	Length/ Slope Factor	Cropping Management Factor	Erosion Control Practice	Sediment Delivery Ratio (Assume 1)	Rate of Soil Loss Tons/Ac/Yr	Soil Loss Tons/Yr
270	0.23	0.67	0.038	1	1	1.581	56.126

Estimated by using the Revised Universal Soil Loss Equation (RUSLE 1.0)
Za=(Zs)(A) Zs=(R)(K)(LS)(Cs)(P)(Sd)

2. Erosion and Sediment Controls Measure Selection

All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for site situations.

The following are erosion and sediment control techniques that were selected to minimize, reduce or eliminate pollution from the site.

Erosion and Sediment Control Selection		
Phase	**Erosion and Sediment Controls** *(Waste concrete pit on site)*	**Selected to Control**
Onsite Fuel Storage Tanks	If present, fuel storage tanks will be stored away from storm drains. Tanks will be labeled so they can be identified and will have secondary containment so they will have low potential of leaking. Petroleum products will be stored according to local code.	· Oils and grease · Chemical Oxygen Demand (COD)
Site Clearing, Grubbing, and Grading	During site clearing and grading, BMPs such as silt fence, and rock entrance will be in place.	· Total Suspended Solids (TSS) · Biological Oxygen Demand (BOD)
Buried Utility Lines	During utility installation, BMPs will be implemented to reduce exposure; At the first sign of rainfall, hay bales or other temporary erosion control methods will be properly placed to stop erosion potential.	· Total Suspended Solids (TSS) · Biological Oxygen Demand (BOD)
Storm Sewer Network	Storm sewer inlets exist offsite and will be covered as needed to collect sediments that may escape from the construction site. The erosion control BMP associated with the excavation, installation, and back fill of the buried utility lines is accommodated by the downslope silt fence and/or detention ponds. When the storm sewer inlet boxes are installed, silt fences or inlet filters will be used to prevent erosion/sediment from impacting the receiving waters. The use of silt fences and rock berm structures around the outfalls will act as a sediment trap and a velocity dissipater.	· Total Suspended Solids (TSS) · Biological Oxygen Demand (BOD)

Erosion and Sediment Control Selection (Cont'd)		
Phase	**Erosion and Sediment Controls** *(Waste concrete pit on site)*	**Selected to Control**
Street/Sidewalk Installation Grading, Forming and Paving	A proper concrete washout area will be implemented and maintained during paving; Silt fence and other BMPs will remain during paving if procedure allows. If used, contain soil stabilization materials on the site.	· pH · Total Suspended Solids (TSS) · Chemical Oxygen Demand (COD)
Construction of the Home Depot Building and Garden Center	During construction of structure, paints, solvents, oils, grease, petroleum products and other chemicals will be stored properly; Cover and secondary containments will be installed on "tanks" needing these BMPs depending on contents and size.	· Total Suspended Solids (TSS) · Chemical Oxygen Demand (COD)
Offsite Fill or Borrow Area	If there is an off-site fill area, the fill will have sediment and erosion controls placed on the downstream side. If the pile will remain for more than 21 days, temporary vegetation will be installed to help retain the soil until the soil is used for final stabilization.	· Total Suspended Solids (TSS) · Biological Oxygen Demand (BOD)
Site Area	Install and maintain rock entrance pad until paved areas are installed.	· Total Suspended Solids (TSS)

3. Removal of Off-Site Accumulations of Sediment

If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts (e.g. fugitive sediment in street could be washed into storm sewers by the next storm event and/or pose a safety hazard to users of public streets).

Off-site accumulations of sediment will be removed by sweeping the streets as needed. The determination for the frequency of street sweeping will be determined by the project manager and based on the results and findings of the inspections. At a minimum, streets will be swept every week.

4. Sediment Removal

Sediment must be removed from sediment traps, silt fences, or sedimentation ponds when design capacity has been reduced by 50%.

Off-site accumulations of sediment will be removed at a frequency as indicated by the results of the regular site inspections. Sediment accumulated in the street will be removed and placed elsewhere or removed from the site. Sediment will be removed from BMPs before the accumulation reaches 50% of design capacity.

5. Litter, Construction Debris Removal

Litter, construction debris, and construction chemicals exposed to storm water shall be picked up prior to anticipated storm events (e.g. forecasted by local weather reports), or otherwise prevented from becoming a pollutant source for storm water discharges (e.g. screening outfalls, picked up daily, etc.).

Litter and construction debris will be accumulated on-site in a roll-off dumpster or trash box containment system. Trash will be removed at a frequency determined by the on-site project manager and based on the findings of the inspection reports. Trash should be removed before it reaches the top of the roll-off or container and trash starts spilling out of the trash container. Site inspections will check to verify that liquid wastes, tires, batteries and other hazardous material style waste are not disposed of with the trash. Subcontractors will be encouraged to remove their leftover chemicals from the site for reuse or proper disposal.

6. Off-Site Material Storage Areas

Off-site material storage areas (also including overburden and stockpiles of dirt, borrow areas, etc.) used solely by the permitted project are considered a part of the project and shall be addressed in the SWPPP.

There are no off-site material storage areas including off-site borrow or fill areas for this project. If there are off-site storage areas, they will be shown on the location and site maps and will have BMPs identified for them.

7. Potential Sources of Pollution

The following potential pollutant sources were evaluated for this site as to whether or not they have the potential to affect the quality of storm water discharges from the site: ***Update as changes occur.***

Potential Pollutant Sources Used or Found On-Site		
Material/Potential Pollutant Source	**Used/Found On Site Yes/No**	**Comments**
Solvents	Yes	Used by plumbing and painting contractors and will be removed from the site by contractors.
Stains, Paints	Yes	Used by painting contractor. Paints and stains may be stored inside the structure and the contractor will remove waste paints and stains from the site.
Wood Preservatives	Yes	Used by painting contractor. Wood preservatives may be stored inside the structure and contractor will remove waste wood preservatives from the site.
Fuels	Yes	Used by vehicles performing dirt work and construction activities. Secondary containment will be provided for tanks to contain leaks and spills.
Oils	Yes	Used by vehicles performing dirt work and construction activities. Also some oils and greases will be used in steel and drilling work. Drip pans will be used when changing oil.
Grease	Yes	Used by vehicles performing dirt work and construction activities.
Roofing Tar	Yes	Roofing tar will be used to seal flashing during the construction. Waste tar will be disposed of in covered container and the roofing contractor will remove excess tar from the site.
Pesticides	Yes	Pesticides may be used as a preparation before the foundation is poured and for pest control during construction to control fire ants, etc. Pesticides will be used according to the manufacturer's labeled instructions, and will not be applied just before a storm event. Excess pesticides will be removed from the site once application is complete.
Fertilizer	Yes	Fertilizer is seldom used during final site preparation when vegetated areas are sodded or seeded. Fertilizer will not be applied just before a storm event, and will not be stored on the site for any length of time.
Sediment/Total Suspended Solids	Yes	Erosion from area where soil is disturbed due to construction has a high potential of sediment and suspended solids. Sediment and erosion control measures are included in this SWPPP.

Potential Pollutant Sources Used or Found On-Site (Cont'd)

Material/Potential Pollutant Source	Used/Found On-Site Yes/No	Comments
Trash	Yes	Trash from empty cardboard, paint, plastic, and metal containers will be properly contained on the site and removed frequently for off-site disposal.
Paving	Yes	Paving operations will not be performed immediately before an anticipated major storm event. Excess chemical from paving will be removed.
Concrete Curing Compound	Yes	Curing compound will be used as needed and concrete contractor will remove remaining compound from the site.
Glue/Adhesives	Yes	Glue and other adhesives will be used in flooring and other similar functions. Empty containers will be properly disposed of.
Joint Compound	Yes	Joint compound will be used to adhere wallboard joints. Empty containers will be properly disposed of.
Refrigerants	Yes	Refrigerants will be used in the AC units. Any AC servicing will be performed by HVAC trained technicians.
Painting and Brick Wash Waters	Yes	Contained on the site in designated areas where possible.
Excavation Pump Out Water	Yes	Pump on vegetated area or through filter bag to contain sediment.
Concrete Wash Water	Yes	Wash water from concrete trucks will be washed out behind curb or at designated site.
Soil Stabilization Material	Yes	Contained on the site and not applied just before a storm event.
Sanitary/Septic Waste Management	Yes	Fecal coliform bacteria may occur in surrounding waters as a result of the overflow of domestic sewage or non-point sources of human and animal waste that could impact the river or other water sources. Portable toilets will be contained on the site in designated areas. Licensed sanitary services will ensure facilities are in working order at all times.

B. Stabilization Practices

The SWPPP must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geo-textiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Use of impervious surfaces for stabilization should be avoided. The type of vegetation used and the area to be stabilized are shown on the BMP map.

1. Schedule of Temporary Stabilization Measures

Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently ceases is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.

2. Earth Disturbing Activities to Resume Within 21 Days

Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site.

3. Delay in Temporary Stabilization due to Drought or Arid Conditions

In arid areas (areas with an average annual rainfall of 0 to 10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

C. Intended Sequence of Major Activities

A description of the intended sequence of major activities that disturb soils for major portions of the site (e.g. grubbing, excavation, grading, utilities and infrastructure installation).

The following is an approximate sequence of soil disturbing activities for the length of the project. The actual schedule of activities will be included below and in the inspection forms due to the variable nature of the construction activities. (The actual schedule of activities will be shown on the phasing log to be completed by the general contractor.) Project phasing is covered in the site inspection reports due to the unpredictable nature of the construction. The reports will show the start and completion dates for each phase. Dates of any temporary or permanent cessation of work on the site will be included in the site inspection reports.

Commercial Sequence of Soil Disturbing Activities		
Activity	**Start**	**Finish**
1. Install Sediment and Erosion Control BMPs		
2. Site Preparation-Mobilization		
3. Clearing , Grubbing and Grading		
4. Excavate and Install Utilities		
5. Pour Slab		
6. Construction of Structure		
7. Stabilize Site/Completion		

D. Vegetative Techniques and Schedule of Implementation

The following are vegetative techniques to be used as sediment and erosion controls for this site:

Vegetative Techniques and Schedule of Implementation	
Type of Vegetation	**Description of Use (application schedule, rate, maintenance schedule)**
Native Grass/Weeds	Existing vegetation will remain on the developed site until construction begins.
Grass Strips or Sod/Gravel and Native Vegetation	Disturbed areas will be covered in grass or sod once construction is completed; or in desert areas, gravel and native vegetation.
Temporary Stabilization	Where construction activities have temporarily or permanently ceased, the area will be stabilized within 14 days unless disturbing activities will resume within 21 days.

E. Stabilization Record Keeping and Temporary Stabilization Practices

The following records shall be maintained and attached to the SWPPP: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated. Except as provided in Parts IX.B.1., 2., and 3. above, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

No areas are currently identified in the SWPPP that would require temporary stabilization. If areas are determined to need temporary stabilization during the permit period, or based on inspections, then the SWPPP will be amended and temporary stabilization measures will be added to the SWPPP.

If temporary stabilization is required due to inactivity on the site for more than 21 days, the following temporary stabilization measures will be implemented as called for in the inspection reports:

(a) Temporary Seeding – Hydroseed or Apply Bonded Fiber Matrix (BFM); or in desert areas, gravel and native vegetation; or
(b) Mulch - Apply straw mulch to disturbed areas; or
(c) Seed and Mulch – Apply seed and mulch over disturbed areas; or
(d) Tackifers – Apply chemical tackifers to stabilized disturbed soil.

F. Structural Practices

The SWPPP shall include a description of structural practices to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Structural practices may include, but are not limited to: silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. Placement of structural practices in floodplains should be avoided to the degree attainable. The installation of these devices may be subject to Section 404 of the Clean Water Act.

List of BMPs – Management, Structural and Vegetative

	Technique/BMP	Used Yes/No	Design Capacity	Design Velocity	Permanent Life (yrs)	Selected to Control
Permanent Structural BMPs	Detention Ponds & Water Quality	Yes	Per Civil	N/A	25	Erosion/Sediment
	Storm Drain System	Yes	Per Civil	Variable	Variable	Erosion/Sediment
	Sediment Traps	No	Per Civil	N/A	Variable	Erosion/Sediment
	Gabions	No	slopes > 4:1	> 6 fps	15	Erosion/Sediment
	Retaining Wall	Yes	N/A	N/A	25	Erosion
	Hydro Mulch/Gravel and Native Vegetation/Sod/Seeding	Yes	0.3 gpm/sq. ft.	1fps	N/A	Erosion/Sediment
	Rock Outlet Protection	Yes	1-1000 cfs	6-25 ft/sec	15	Erosion
	Vegetated Berm	No	1.0 cfs/ft.	5-6 fps	N/A	Erosion/Sediment
Temporary Structural BMPs	Mulch (Straw, Wood)	No	2-9 tons/acre	1 fps	N/A	Erosion/Sediment
	Seed and Mulch	Yes	2-9 tons/acre	1 fps	N/A	Erosion/Sediment
	Erosion Control Blanket/Mat	No	0.3-0.8 lbs per sq. yd.	20%-80% Reduction	N/A	Erosion/Sediment Stabilization
	Hydro Mulch	Yes	0.3 gpm/sq. ft.	1fps	N/A	Erosion/Sediment
	Fiber Roll	No	<3:1 slopes 1 cfs	N/A	N/A	Sediment
	Dust Control	Yes	N/A	N/A	N/A	Erosion/Sediment
	Maintain Existing Vegetation	Yes	1.0 cfs/ft.	1 fps	N/A	Erosion /Sediment
	Erosion Control Grass Sod/Mesh	Yes	1.0 cfs/ft.	5-6 fps	N/A	Erosion/Sediment
	Soil Cement (stabilize creek banks)	No	N/A	8 fps	N/A	Erosion/Sediment
	Silt Fence	Yes	100-1500 ft.	1 fps	N/A	Erosion/Sediment
	Tri-Dike	Yes	100-1500 ft.	1 fps	N/A	Erosion/Sediment
	Tree Protection	Yes	N/A	N/A	N/A	Trash/Litter
	Interceptor Swale	No	1-10 acres	4-8 fps	N/A	Erosion/Sediment
	Diversion Dike	No	10 acres	4-8 fps	N/A	Erosion/Sediment
	Hay Bale Dike	No	1-3 acres	1 fps	N/A	Erosion/Sediment
	Sandbag Berm	No	0.1 cfs/ft.	1 fps	N/A	Erosion/Sediment
	Rock Dams/Berms/Checks	Yes	2 ft. height	2 fps	N/A	Erosion/Sediment
	Level Spreaders	No	3500 ft.	2-6 fps	N/A	Erosion/Sediment
	Velocity Dissipation Devices	Yes	2 ft. height	2-6 fps	N/A	Erosion /Sediment
	Sediment/Detention Basin	Yes	3600 cf/acre	N/A	N/A	Sediment
	Sediment Traps	Yes	1-10 acres	N/A	N/A	Sediment
	Pipe Slope Drain	No	5 acres	N/A	N/A	Erosion/Sediment
	Cover/Maintain Storm Inlet	Yes	0.25 acre	1 fps	N/A	Sediment
	Cut Back Curb	No	16 cf/ft	N/A	N/A	Sediment
	Stabilized Construction Entrance	Yes	30-50 ft. length	N/A	N/A	Tracking/Sediment
	Concrete Wash Area	Yes	N/A	N/A	N/A	Pollution
Procedural BMPs	Contain Wash Waters Onsite	Yes	N/A	N/A	N/A	Non Storm Water Discharges
	Remove Hazardous Chemicals From Site	Yes	N/A	N/A	N/A	Hazardous Materials
	Sweep Street as Needed	Yes	N/A	N/A	N/A	Sediment
	Regular Trash Pick Up	Yes	N/A	N/A	N/A	Trash

1. Common Drainage Areas Equal to or Greater Than 10 Acres

For common drainage locations that serve an area with ten (10) or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. When computing the number of acres draining into a common location, it is not necessary to include flows from off-site areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. In determining whether installing a sediment basin is attainable, the permittee may consider factors such as site soils, slope, available area on site, etc. In any event, the permittee must consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls shall be used where site limitations would preclude a safe design. For drainage locations which serve ten (10) or more disturbed acres at one time and where a temporary sediment basin or equivalent controls are not attainable, smaller sediment basins and/or sediment traps should be used. Where neither the sediment basin nor equivalent controls are attainable due to site limitations, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area and for those side slope boundaries deemed appropriate as dictated by individual site conditions. TCEQ encourages the use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal.

This project is larger than 10 acres in disturbed area and does have a sediment/detention basin.

2. Common Drainage Areas Less Than 10 Acres

For drainage locations serving less than 10 acres, smaller sediment basins and/or sediment traps should be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area unless a sediment basin providing storage for a calculated volume of runoff from a 2-year, 24-hour storm or 3,600 cubic feet of storage per acre drained is provided. TCEQ encourages the use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal.

This project is larger than 10 acres in disturbed area therefore this section does not apply.

G. Storm Water Management

A description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWPPP. Structural measures should be placed on upland soils to the degree attainable. The installation of these devices may also require a separate permit under section 404 of the Clean Water Act. Permittees are only responsible for the installation and maintenance of storm water management measures prior to final stabilization of the site, and are not responsible for maintenance after storm water discharges associated with construction activity have been eliminated from the site. However, post-construction storm water BMPs that discharge pollutants from point sources once construction is completed may, in themselves, need authorization under a separate TPDES permit.

1. Post-Construction Controls

Such practices may include, but are not limited to: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff on the site; and sequential systems (which combine several practices). The SWPPP shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.

The selected post-controls provide the maximum reduction of potential pollutants after construction is complete based on-site and safety considerations.

Post-Construction Controls	Selected (Yes/No)	Explanation Of Selection
Storm Water Detention Structures (including wet ponds)	Yes	Storm water detention structures were selected for this project due to site size.
Flow Attenuation by Use of Open Vegetated Swales and Natural Depressions	Yes	Open vegetated swales are used around the structure to carry storm water away from the site. These swales allow for increased infiltration compared to concrete swales.
Infiltration of Runoff Onsite	Yes	Vegetated grass and landscaped areas provide for increased infiltration on the site to reduce runoff from the site once construction has been completed.
Permanent Vegetation	Yes	Permanent vegetation will be accomplished by seeding the finished area site with a mixture of perennial grass seed; or in desert areas, gravel and native vegetation. This may not be possible at all times due to drought, weather, or time of year (winter).
Interceptor Swale	No	An interceptor swale is used to divert run-on water away from disturbed construction areas, or to divert runoff water from construction areas to avoid runoff crossing disturbed areas.
Diversion Dike	No	Diversion dikes are similar in function to interceptor swales in controlling runon or runoff.
Storm Drain System	Yes	A curb and gutter storm drain system or drainage ditch discharge system is installed in every project. The storm water is collected in the street and channeled to either the curb inlet or drainage ditch system.
Sequential Systems (which combine several practices)	Yes	A series of swales, retention systems, and vegetation will help reduce post construction flows by increasing infiltration for the site and retaining peak flows.

2. Velocity Dissipation Devices

Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. no significant changes in the hydrological regime of the receiving water).

Velocity dissipation devices will be installed in the form of rip rap and detention ponds as part of this project. The runoff from this project is entering into an existing storm sewer system that may or may not have existing velocity dissipation devices.

3. Prohibition on Unpermitted Discharges of Solid Materials

No solid materials, including building materials, shall be discharged to waters of the State, except as authorized by a Federal Clean Water Act Section 404 permit.

Control of solid materials from the site will be accomplished by adherence to the trash and waste removal procedures established in this SWPPP. Storage of litter, debris, and waste construction materials in appropriate containers and frequent removal should be sufficient to control solid materials from the site. Site inspections will monitor the progress of these procedures and make changes as needed.

4. Off-Site Tracking and Dust Generation

Off-site vehicle tracking of sediments and the generation of dust shall be minimized.

Off-site tracking of sediments will be controlled using the site entrance pads as called for on the site map. The rock entrance pads will help the tires of vehicles leaving the site to deposit mud and dirt from the site before entering the street. Dust control will be accomplished by spraying water on disturbed areas or dirt roadways as determined necessary by the site superintendent or as noted as needed during the site inspections. Vehicle access to the construction site will be limited to a controlled access point. An attempt will be made to keep contractor vehicles off the site except for material deliveries. At a minimum, the access point to the subdivision will be covered with crushed rock or grass mesh to minimize the dirt tracked off the site and dust generated.

5. State/Tribal and/or Local Waste Disposal Regulations

The SWPPP shall be consistent with applicable state, tribal and/or local waste disposal, sanitary sewer or septic system regulations to the extent these are located within the permitted area.

Portable toilets will be provided and maintained as required by local regulations. No additional state, tribal or local plan requirements were found that would impact this project. If such requirements become known in the future, the SWPPP will be updated.

6. Construction and Waste Materials Stored On-Site

The SWPPP shall include a description of construction and waste materials expected to be stored on-site with updates as appropriate. The SWPPP shall also include a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to storm water, and spill prevention and response.

Waste Management Practices	
Solid Waste Management	
Management Practice	**Comments**
Covered, Leakproof Trash Container on the Site	Covered trash receptacles will not be used throughout the project. A roll-off or open trash container will be used.
Covered Dumpster	A covered dumpster will not be used at each site to control trash and construction debris. A roll-off or open trash container will be used.
Roll-Off Trash Container	A roll-off container may be used at the site if volume of waste warrants it, otherwise an open trash container will be used.
Daily Site Cleanup Procedures Implemented	Crews will be instructed to clean up trash and debris regularly and remove from the site. Blowable trash will be placed inside trash containers at the end of each workday.
Timely Collection of Waste from Containers	Solid waste contractor will pick up waste from containers on a regular schedule.
Concrete Washout Areas	Wash water from concrete trucks will be washed behind curb or at a designated site. The designated site will be shown on the site map. Concrete waste management practices as described in BMP section.
Hazardous Waste Management	
Management Practice	**Comments**
Paint, Thinner and Solvents Used by Contractors	Paints, thinners, and solvents used by contractors will be stored in contractor's vehicles and removed from the site each day, when possible.
Storing Paints, Thinners, and Solvents on the Site	When paints, thinners or solvents cannot be removed from the site, they will be stored inside structure and secured to prevent exposure to storm water.
Disposal of Waste Paints, Thinners, and Solvents	Waste paints, thinners, and solvents will be removed from the site by the contractor for proper disposal. No waste products will be disposed of in the dumpster except open, empty containers.
Dikes Around Site Fueling Areas and Fuel Storage Areas	Dikes will be constructed around site fueling and fuel storage areas.
Controlled Storage Facilities for Fertilizer and Other Chemicals	Chemicals or fertilizers stored on the site will be placed in a controlled storage facility. Contractors will remove chemicals from the site each day.
Procedures for Handling Spills are Established and Posted on the Site	A spill response bulletin will be posted on the site when possible or available in the site superintendent's vehicle.

7. Pollutant Sources From Areas Other Than Construction

The SWPPP shall include a description of pollutant sources from areas other than construction (including storm water discharges from dedicated asphalt plants and dedicated concrete plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

No other areas other than construction are included in this project at this time. If other areas are used in the future, then measures to minimize potential pollution sources from the sites will be added to the SWPPP.

8. Measures Necessary to Protect Listed Endangered or Threatened Species or Critical Habitat

The SWPPP shall include a description of measures necessary to protect listed endangered or threatened species, or critical habitat, including any terms or conditions that are imposed under the eligibility requirements of Part I.C.6. of the EPA NPDES General Permit. Failure to describe and implement such measures will result in storm water discharges from construction activities that are ineligible for coverage under this permit.

Based on the site inspection when the SWPPP was being developed and on the endangered species information evaluated, no additional control measures are needed at this time for this project. If a determination is made in the future that additional controls are needed, the SWPPP will be amended and the controls put in place.

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A. Prohibition on Non-Storm Water Discharges

All discharges authorized by this permit and covered by this SWPPP are composed entirely of storm water associated with construction activities or are an authorized Non-Storm Water Discharge.

Authorized Non-Storm Water Discharges	Comments
1. Discharges from fire-fighting activities.	Only in case of an emergency.
2. Fire hydrant flushings.	New hydrant installation includes flushing of the fire hydrants to ensure lines are clean and have no residual chlorine. No hyperchlorinated water discharges (from water lines disinfection) will be allowed.
3. Waters used to wash vehicles where detergents are not used.	Concrete trucks are rinsed on the site without the use of detergents. Wash water is retained on the site.
4. Water used to control dust.	Water is used during development to control dust on roadways under construction.
5. Potable water sources including waterline flushing, routine external building wash down that does not use detergents.	Domestic drinking water supply lines are flushed to ensure lines are clean and have no residual chlorine. No hyperchlorinated water discharges (from water lines disinfection) will be allowed.
6. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used.	Roadways and flatwork are pressure washed on a regular basis. No chemicals are used and after all leaks or spills have been cleaned up.
7. Uncontaminated air conditioning or compressor condensate.	Air conditioning condensate from the construction trailer during construction.
8. Uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with process materials such as solvents.	Unusual unless ground water is encountered during excavation. Ground water in excavations will be pumped out onto the ground and not allowed to directly discharge from the site.
9. Uncontaminated excavation dewatering.	Pump out water will be discharged to the ground and not allowed to directly discharge from the site.
10. Landscape irrigation.	Temporary and permanent vegetation may be irrigated to establish and enhance growth.

B. Non-Storm Water Discharges

Except for flows from fire-fighting activities, sources of non-storm water listed in Part II.A. of the permit that are combined with storm water discharges associated with construction activity must be identified in the SWPPP. The SWPPP shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge. Any non-storm water must be discharged through stable discharge structures.

A discussion of non-storm water discharges is shown above.

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A. Maintenance of Controls

All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. If site inspections identify BMPs that are not operating effectively, maintenance shall be performed before the next anticipated storm event if possible, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable.

BMP Maintenance Schedule and Responsibility Chart

Activity	Duration	BMP Added	Maintainer	Maintenance Required
Install Erosion and Sediment Controls (BMPs)	Week 1	Install perimeter controls; stabilization construction entrance		Remove sediment; add rock as needed
Clear and Grub	Week 1	Maintain perimeter controls		Remove sediment; add rock as needed
Mass Grading	Weeks 2-7	Maintain perimeter controls; install interior controls		Remove sediment; add rock as needed
Sewer Installation	Weeks 8-11	Maintain controls		Remove sediment; add rock as needed
Joint Utilities	Weeks 12-17	Maintain controls		Remove sediment; add rock as needed
Storm Drains	Weeks 18-21	Protect inlets when installed		Remove sediment; add rock as needed
Water and Gas	Weeks 22-28	Maintain controls		Remove sediment; add rock as needed
Subgrade and Building	Week 29	Maintain controls; Concrete washout area		Remove sediment and remove washout debris when dry
Curb and Gutter	Weeks 30-3[illegible]	Maintain controls; Concrete washout area		Remove sediment and remove washout debris when dry
Base and Paving	Week 32	Maintain controls; Concrete washout area		Remove sediment and remove washout debris when dry

BMP Maintenance Schedule and Responsibility Chart (Cont'd)				
Activity	**Duration**	**BMP Added**	**Maintainer**	**Maintenance Required**
Sidewalks	Weeks 33-35	Maintain controls; Concrete washout area		Remove sediment and remove washout debris when dry
Set Boxes/ Pull Utilities Week	Week 36	Maintain controls		Remove sediment; add rock as needed
Concrete/ Retaining Walls	Weeks 37-41	Maintain controls; Concrete washout area		Remove sediment and remove washout debris when dry
Landscaping/ Revegetation	Weeks 42-43	Maintain controls		Remove sediment; add rock as needed
Stockpile Management	Weeks 1-43	Maintain controls		Remove sediment; add rock as needed
Final Stabilization	Week 44	Maintain controls		Remove sediment; add rock as needed
General	Week 45	Remove Controls		Remove sediment
	Weeks 1-45	Street Sweeping/ Overall Housekeeping		Use water spray street sweeping, remove trash regularly
	Weeks 1-45	Staked portable toilet		Clean and restake as needed
	Weeks 1-45	Dumpster on site		Check for liquids and leaks

BMP Maintenance Schedule and Responsibility Chart

Activity	Duration	BMP Added	Maintainer	Maintenance Required
Install Erosion and Sediment Controls (BMPs)				
Clear , Grub and Grading				
Mass Grading				
Sewer Installation				
Joint Utilities				
Storm Drains				
Water and Gas				
Subgrade and Building				
Curb and Gutter				
Base and Paving				
Sidewalks				
Set Boxes/ Pull Utilities Week				
Concrete/ Retaining Walls				
Landscaping/ Revegetation				
Stockpile Management				
Final Stabilization				
General				

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A. Releases in Excess of Reportable Quantities

The discharge of hazardous materials or oil from the site will be prevented or minimized using the best management practices (BMPs) identified in this SWPPP. Any discharges in 24 hours equal to or in excess of the reportable quantities listed in 40 CFR 110, 117, or 302 will be reported to the National Response Center and the agencies listed below as soon as practical after knowledge of the spill is known to the permittees. The Stormwater Pollution Prevention Plan must be modified within 14 calendar days of knowledge of the release to provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

Agency	Phone Number
National Response Center	(800) 424-8802
Texas Commission on Environmental Quality	(800) 832-8224 (512) 239-2454
Paradigm Engineering	(888) 243-3605 (972) 829-8100

Material	Media Released To	Reportable Quantity
Engine oil, fuel, hydraulic & brake fluid	Land	25 gallons
Paints, solvents, thinners	Land	100 lbs (13 gallons)
Engine oil, fuel, hydraulic & brake fluid	Water	Visible Sheen
Antifreeze, battery acid, gasoline, engine degreasers	Air, Land, Water	100 lbs (13 gallons)
Refrigerant	Air	1 lb

B. Spills *Small spills (e.g. oil leaks, overfills, etc) will be cleaned as soon as possible and reported, if required. Oil dry, plastic shovels, plastic bags and sealable container will be obtained locally as needed. Contaminated material will be collected in the bags, bags dated, nature of material noted and stored in the container. Spill material will be properly disposed of off the site. Spill response procedures will be available on-site for personnel responsible for fluid material handling to review. A copy of the spill response plan (located in the back of the book) will be posted at the site near where liquid materials are stored. In cases of a spill, personnel on the site will make decisions in response to the spill based on the following decision hierarchy:*

1. *Protect people*
2. *Protect property*
3. *Protect the environment*

Spill Response Contractor	Contact Information
Eagle Construction – cleanup, removal and disposal of spilled or hazardous materials.	Eagle Construction Fort Worth, Texas 817-847-1333 800-336-0909 24 hr emergency response
Garner Environmental - cleanup, removal and disposal of spilled or hazardous materials.	Garner Environmental Fort Worth, Texas 817-535-7222 888-654-0111

PART XIII.
Site/Existing Map, BMP Map, and Location Map

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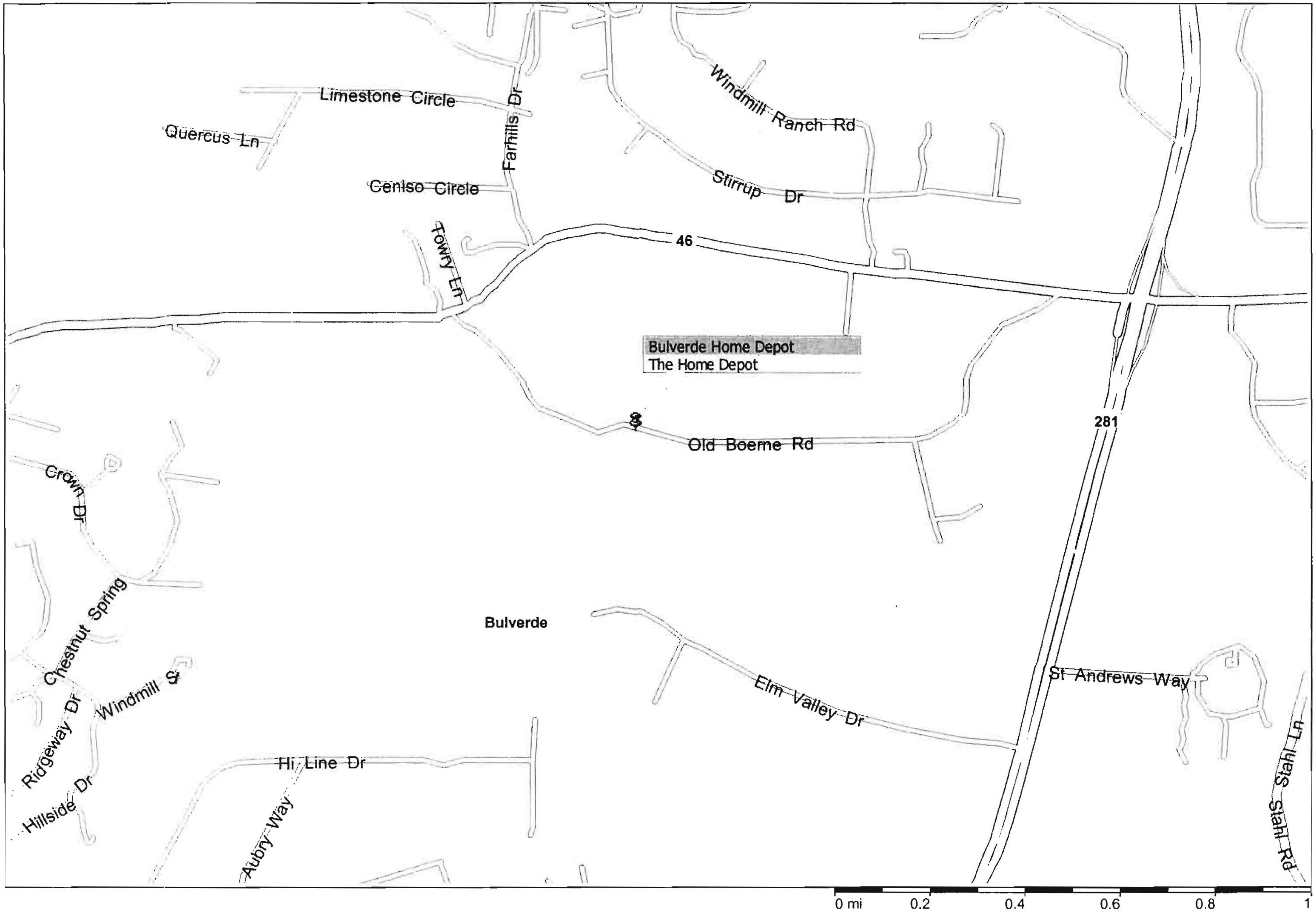
6-6-05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Farhills Dr
Windmill Ranch Rd
Cenlso Circle
Stirrup Dr
Towry Ln
46
Bulverde Home Depot
The Home Depot
281
Old Boerne Rd
Crown Dr
Chestnut Spring
Bulverde
Windmill St
Ridgeway Dr
Elm Valley Dr
St Andrews Way
Hi Line Dr
Hillside Dr
Aubry Way
Stahl Ln
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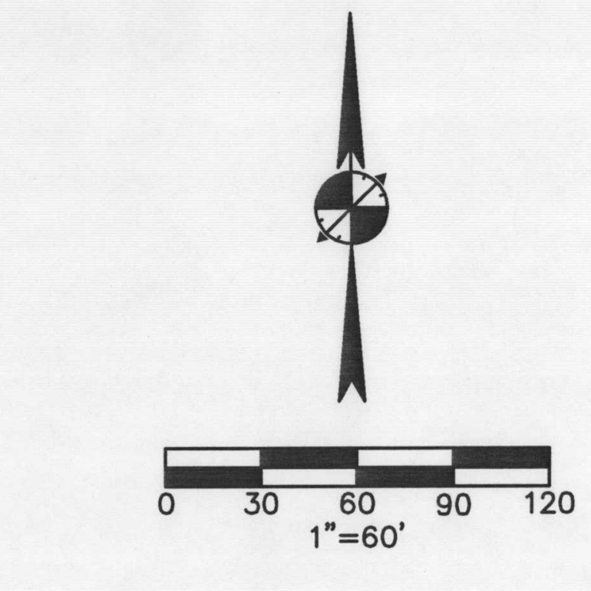


NOTES:

STORM WATER POLLUTION PREVENTION NOTES

1. PRIOR TO CONSTRUCTION, MAKE CERTAIN THE NOTICE OF INTENT (NOI) OR CONSTRUCTION SITE NOTICE (CSN) HAS BEEN FILED AND POSTED ONSITE FOR PUBLIC VIEWING AND THE TPDES REPORT AND SWPPP ARE AVAILABLE AT THE TRAILER.
2. INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, EXCAVATION).
3. THE PLACEMENT OF STORM WATER POLLUTION PREVENTION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION CONTROL PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR AND ENGINEER AFTER INSTALLATION OF THE STORM WATER POLLUTION PREVENTION CONTROLS AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE STORM WATER POLLUTION PREVENTION CONTROL PLAN MAY BE REQUIRED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT INTERVALS OF AT LEAST ONCE EVERY TWO (2) WEEKS AND IMMEDIATELY AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY.
8. WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
9. SOIL DISTURBANCES SHALL BE MINIMIZED BY EXPOSING ONLY THE SMALLEST PRACTICAL AREA OF LAND REQUIRED FOR THE CLEARING AND GRADING ACTIVITY AND FOR THE CONSTRUCTION ACTIVITY, FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
10. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND EXCEPT AS PROVIDED BELOW, WILL BE INITIATED NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
11. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
12. TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOILS HAVE COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE INTENDED PURPOSE.
13. MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
14. PERMANENT EROSION CONTROL:
ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
    - (A) A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.
    - (B) THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS UNLESS SPECIFIED OTHERWISE BY THE PROJECT'S LANDSCAPE PLAN:

    BROADCAST SEEDING:
    I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
    II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
    - (C) FERTILIZER SHALL BE A PELLETED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15- 15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.
    - (D) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF.

    HYDRAULIC SEEDING:
    I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
    II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
    - (E) FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.
    - (F) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.
    - (G) THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. (COORDINATE WITH IRRIGATION PLAN)
    - (H) RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
    - (I) SEEDING SHALL APPLY TO ALL AREAS WITHIN DISTURBED PROJECT AREA NOT COVERED BY PAVEMENT, BUILDING PAD OR PROJECT LANDSCAPING PLANS.
    - (J) TWO SEEDINGS SHOULD OCCUR DURING PROJECT. FIRST SHOULD OCCUR WITHIN 14 DAYS AFTER PONDS ARE GRADED AND SECOND BY FINAL PUNCH LIST.
15. THE EPA GENERAL PERMIT REQUIRES THAT A TEMPORARY OR PERMANENT SEDIMENT BASIN BE INSTALLED IN ANY DRAINAGE LOCATION WHERE MORE THAN 10 ACRES IN THE UPSTREAM DRAINAGE ARE DISTURBED AT ONE TIME. THE SEDIMENT BASIN MUST PROVIDE AT LEAST 3,600 CUBIC FEET OF STORAGE FOR EVERY ACRE OF LAND, WHICH IT DRAINS.
16. CONTRACTOR TO COORDINATE CONSTRUCTION ACCESS TO SITE WITH TXDOT.

LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
◐		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✹	LIGHT POLE
⌀	⌀	POWER POLE
⫰	⫰	DOWN GUY
⊤	⊤	FIRE HYDRANT
⊘	◑	WATER VALVE
▨	◪	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
╫──╫	╫──╫	WOOD FENCE
──○──	──○──	CHAIN LINK FENCE
✕──✕	✕──✕	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO ○	CO ●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
○	○	SIGN
── ──	── ──	VARIABLE HEIGHT CONCRETE RETAINING WALL
☒	☒	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
△T	△T	TELEPHONE SERVICE BOX
○	•	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	SS	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— — WW—	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
→	→	FLOW DIRECTION
▒	▒	CONCRETE SURFACE
	▬ ▬ ▬	LIMITS OF CONSTRUCTION
○ 1170		ON SITE TREE TO REMAIN
◌ 1170		TREE TO BE REMOVED
	—IP—	INLET PROTECTION (SEE DETAIL C0.7.5, & C0.7.6)
	—SF—	SILT FENCE (SEE DETAIL C0.7.1)
	—TP—	TREE PROTECTION (SEE DETAIL C0.7.4)
	⋃	ROCK BERM (SEE DETAIL C0.7.7)
	▒	CONSTRUCTION ENTRANCE (SEE DETAIL C0.7.3)
	▨	STAGING AREA (SEE DETAIL C0.7.9)
	▩	CONCRETE TRUCK WASHOUT PIT (SEE DETAIL C0.7.8)

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

LEGAL DESCRIPTION:

BEING A 29.069 ACRE TRACT OF LAND SITUATED IN THE PHILLIP WAGNER SURVEY NO. 573, ABSTRACT NO. 673 AND THE CARL GEORG SURVEY NO. 432, ABSTRACT NO. 190, COMAL COUNTY, TEXAS, BEING PORTIONS OF THE FOLLOWING TRACTS OF LAND: THAT CERTAIN REMAINING PORTION OF 78.104 ACRES OF LAND AS DESCRIBED IN DOCUMENT NO. 9706003738 OF THE OFFICIAL RECORDS OF COMAL COUNTY, TEXAS; A PORTION OF LOT 3 AND ALL OF LOTS 4-6 (INCLUSIVE), WARREN HILL SUBDIVISION, A SUBDIVISION OF RECORD IN VOLUME 12, PAGE 312 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

THE HOME DEPOT
BULVERDE, TEXAS

STORM WATER POLLUTION PREVENTION PLAN

PLOTTING SCALE: 1"= 1"
DATE REVISED: 06/27/05
FILE: G:\048\53\04853SWP.dwg
DRAWN BY: CJG
DESIGNED BY: KPK
REVIEWED BY: CDA
PROJECT NO.: 50048-53.00

SHEET
C-0.5

Date: Jun 21, 2005, 5:33pm User ID: cgilbert
File: G:\048\53\04853SWP.dwg

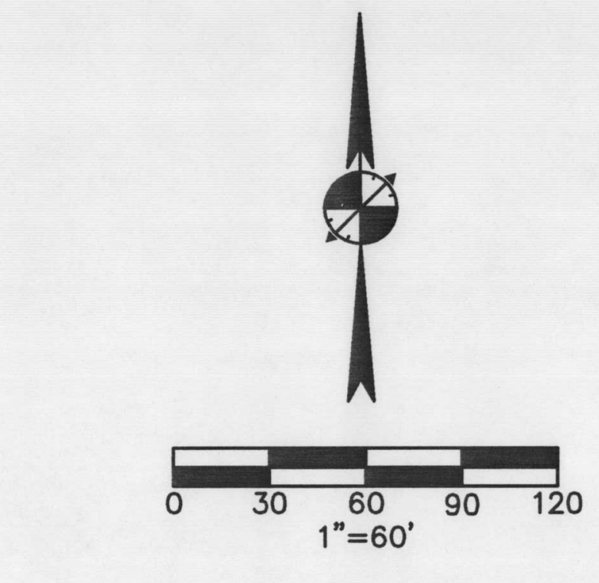
NOTES:

STORM WATER POLLUTION PREVENTION NOTES

1. PRIOR TO CONSTRUCTION, MAKE CERTAIN THE NOTICE OF INTENT (NOI) OR CONSTRUCTION SITE NOTICE (CSN) HAS BEEN FILED AND POSTED ONSITE FOR PUBLIC VIEWING AND THE TPDES REPORT AND SWPPP ARE AVAILABLE AT THE TRAILER.
2. INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, EXCAVATION).
3. THE PLACEMENT OF STORM WATER POLLUTION PREVENTION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION CONTROL PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR AND ENGINEER AFTER INSTALLATION OF THE STORM WATER POLLUTION PREVENTION CONTROLS AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE STORM WATER POLLUTION PREVENTION CONTROL PLAN MAY BE REQUIRED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT INTERVALS OF AT LEAST ONCE EVERY TWO (2) WEEKS AND IMMEDIATELY AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY.
8. WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
9. SOIL DISTURBANCES SHALL BE MINIMIZED BY EXPOSING ONLY THE SMALLEST PRACTICAL AREA OF LAND REQUIRED FOR THE CLEARING AND GRADING ACTIVITY AND FOR THE CONSTRUCTION ACTIVITY, FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
10. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND EXCEPT AS PROVIDED BELOW, WILL BE INITIATED NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
11. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
12. TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOILS HAVE COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE INTENDED PURPOSE.
13. MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
14. PERMANENT EROSION CONTROL:
    ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
    - (A) A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.
    - (B) THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS UNLESS SPECIFIED OTHERWISE BY THE PROJECT'S LANDSCAPE PLAN:

    BROADCAST SEEDING:
    I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
    II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
    - (C) FERTILIZER SHALL BE A PELLETED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15- 15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.
    - (D) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF.

    HYDRAULIC SEEDING:
    I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
    II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
    - (E) FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.
    - (F) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.
    - (G) THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. (COORDINATE WITH IRRIGATION PLAN)
    - (H) RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
    - (I) SEEDING SHALL APPLY TO ALL AREAS WITHIN DISTURBED PROJECT AREA NOT COVERED BY PAVEMENT, BUILDING PAD OR PROJECT LANDSCAPING PLANS.
    - (J) TWO SEEDINGS SHOULD OCCUR DURING PROJECT. FIRST SHOULD OCCUR WITHIN 14 DAYS AFTER PONDS ARE GRADED AND SECOND BY FINAL PUNCH LIST.
15. THE EPA GENERAL PERMIT REQUIRES THAT A TEMPORARY OR PERMANENT SEDIMENT BASIN BE INSTALLED IN ANY DRAINAGE LOCATION WHERE MORE THAN 10 ACRES IN THE UPSTREAM DRAINAGE ARE DISTURBED AT ONE TIME. THE SEDIMENT BASIN MUST PROVIDE AT LEAST 3,600 CUBIC FEET OF STORAGE FOR EVERY ACRE OF LAND, WHICH IT DRAINS.
16. CONTRACTOR TO COORDINATE CONSTRUCTION ACCESS TO SITE WITH TXDOT.



LEGEND

EXISTING	PROPOSED	
●		1/2" IRON ROD FOUND
○		1/2" IRON ROD SET
⊙		IRON PIPE FOUND
▲		NAIL FOUND
△		COMPUTED POINT
■		MONUMENT FOUND
P.O.B.		POINT OF BEGINNING
◐		BENCHMARK
(XXX)		RECORD INFORMATION
☼	✸	LIGHT POLE
∅	∅	POWER POLE
⚓	⚓	DOWN GUY
		FIRE HYDRANT
⊘	◑	WATER VALVE
◫	◩	WATER METER
G	G	GAS METER
Ⓖ	Ⓖ	GAS VALVE
-//—//-	-//—//-	WOOD FENCE
—o—	—o—	CHAIN LINK FENCE
×—×	×—×	WIRE FENCE
EMH ○	EMH ●	ELECTRICAL MANHOLE
WWMH ○	WWMH ●	WASTEWATER MANHOLE
SSMH ○	SSMH ●	STORMSEWER MANHOLE
WTR ○	WTR ●	WATER MANHOLE
CO○	CO●	CLEAN OUT
▤	▥	DRAINAGE INLET
▭	▭	CURB INLET
═	═	CURB & GUTTER
♿	♿	HANDICAPPED PARKING SPACE
		SIGN
— —	— —	VARIABLE HEIGHT CONCRETE RETAINING WALL
⊠	⊠	ELECTRIC PULL BOX
E	E	ELECTRIC METER
T	T	ELECTRIC TRANSFORMER
△T	△T	TELEPHONE SERVICE BOX
○	•	BOLLARD
— —OHE—	—OHE—	OVER HEAD ELEC. LINE
— —OHT—	—OHT—	OVER HEAD TELEPHONE
— — SS —	SS	STORM SEWER LINE
— — W —	—W—	WATER LINE
—FW8"—	—FW—	FIRE WATER LINE
—DW4"—	—DW—	DOMESTIC WATER LINE
	—LW—	LANDSCAPE WATER LINE
— — WW—	—WW—	WASTEWATER LINE
— — UE —	—UE—	UNDERGROUND ELECTRIC
— — UT —	—UT—	UNDERGROUND TELEPHONE
— — G —	—G—	GAS LINE
— — —		PROPERTY LINE
—678—	—678—	CONTOUR
+704	+704	SPOT ELEVATION
→	→	FLOW DIRECTION
▨	▨	CONCRETE SURFACE
	▬ ▬ ▬	LIMITS OF CONSTRUCTION
◯ +1170		ON SITE TREE TO REMAIN
◌ +1170		TREE TO BE REMOVED
	—IP—	INLET PROTECTION (SEE DETAIL C0.7.5, & C0.7.6)
	—SF—	SILT FENCE (SEE DETAIL C0.7.1)
	—TP—	TREE PROTECTION (SEE DETAIL C0.7.4)
	⊔	ROCK BERM (SEE DETAIL C0.7.7)
	▨	CONSTRUCTION ENTRANCE (SEE DETAIL C0.7.3)
	▨	STAGING AREA (SEE DETAIL C0.7.9)
	▨	CONCRETE TRUCK WASHOUT PIT (SEE DETAIL C0.7.8)

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BENCHMARKS:

TBM "A"– SQUARE CUT ON CURB, LOCATED ±28.79' NORTHWESTERLY FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF OLD BOERNE ROAD, ELEVATION = 1189.83 FEET, AS SHOWN

TBM "B" – SQUARE CUT ON CURB, LOCATED ±165.97' SOUTHERLY FROM THE HEB GAS STATION ELEVATION = 1179.81 FEET, AS SHOWN

TBM "C" – SQUARE CUT ON CURB, LOCATED ±57.48' EASTERLY FROM THE HEB GAS STATION ELEVATION = 1178.44 FEET, AS SHOWN

TBM "D" – RAIL ROAD SPIKE IN POWER POLE, LOCATED ±300' FROM THE SOUTHERLY CORNER OF THE 52.646 ACRE TRACT, AND ±1.49' FROM THE NORTHWESTERLY RIGHT OF WAY LINE OF U.S. HIGHWAY 281, ELEVATION = 1168.80 FEET, AS SHOWN

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THE HOME DEPOT
BULVERDE, TEXAS

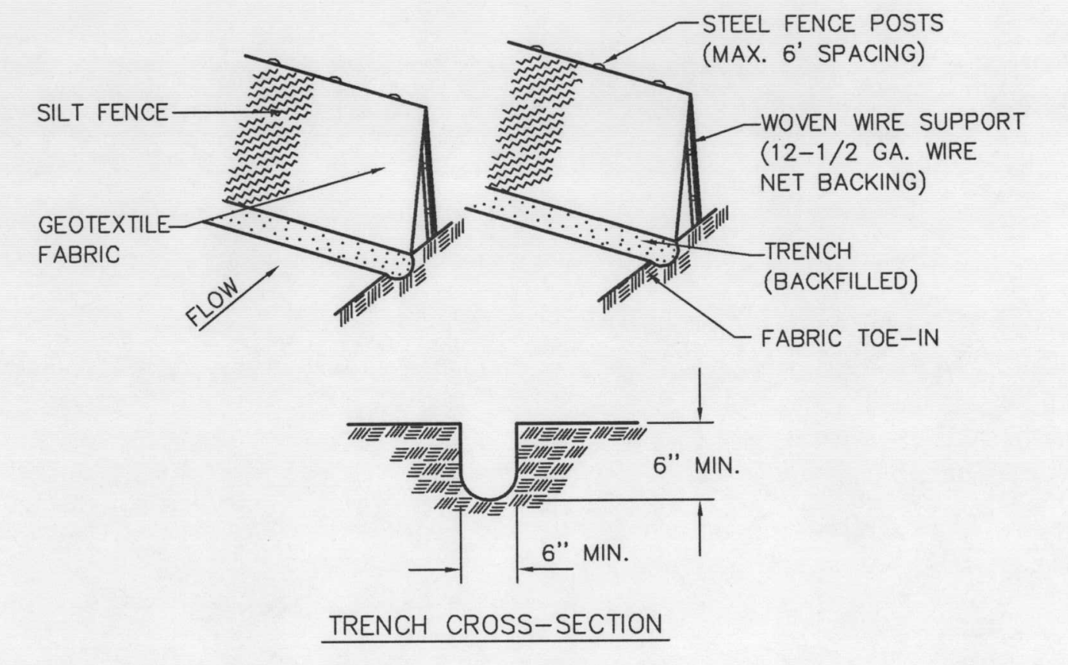
THE HOME DEPOT

STORM WATER POLLUTION PREVENTION PLAN

PLOTTING SCALE: 1"= 1"
DATE REVISED: 06/27/05
FILE: G:\048\53\04853SWP02.dwg
DRAWN BY: ENW
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 50048-53.00

SHEET
C-0.6

Date: Jun 21, 2005, 5:33pm User ID: cgilbert
File: G:\048\53\04853SWP02.dwg



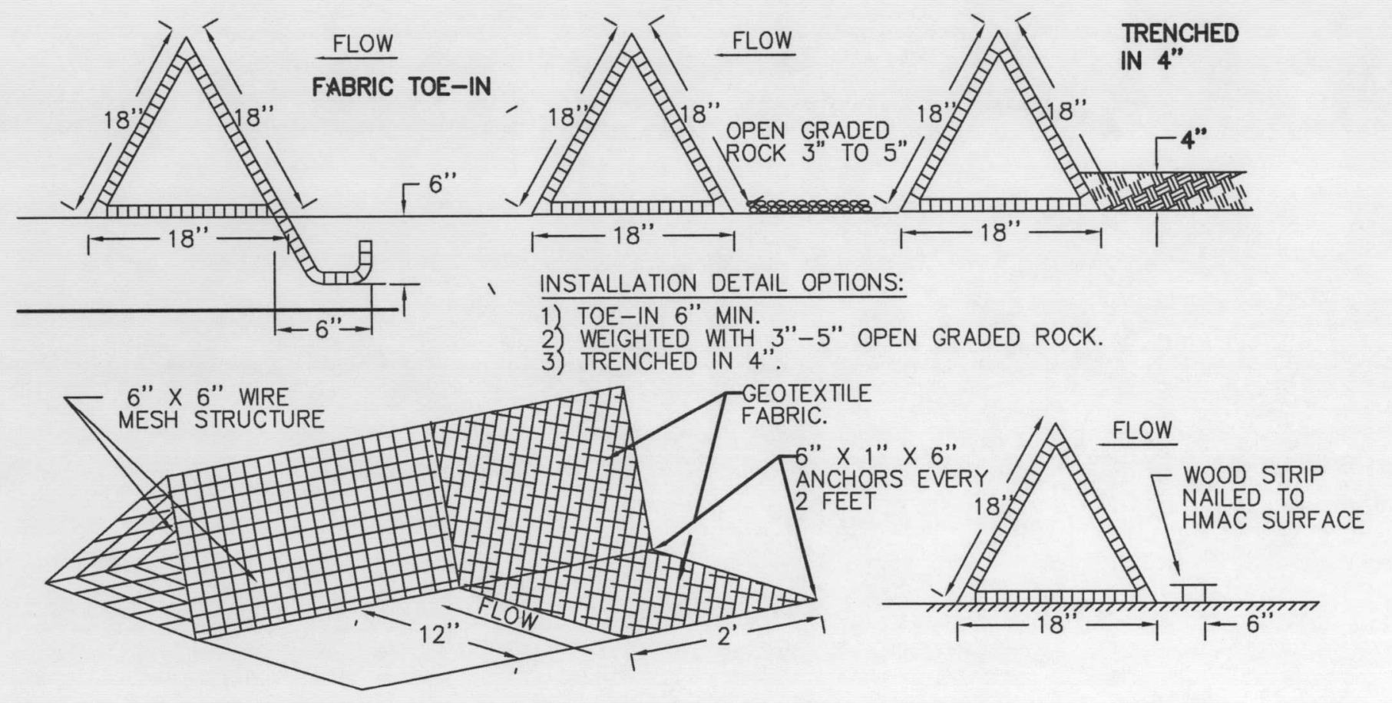
NOTES:

1. STEELPOSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. CONTRACTOR SHALL PROVIDE TRIANGULAR SEDIMENT FILTER DIKE PER DETAIL C0.4.2 WHERE SILT FENCE IS REQUIRED BUT NOT INSTALLABLE.

C-0.7.1

SILT FENCE

SCALE: N.T.S.



INSTALLATION DETAIL OPTIONS:
1) TOE-IN 6" MIN.
2) WEIGHTED WITH 3"-5" OPEN GRADED ROCK.
3) TRENCHED IN 4".

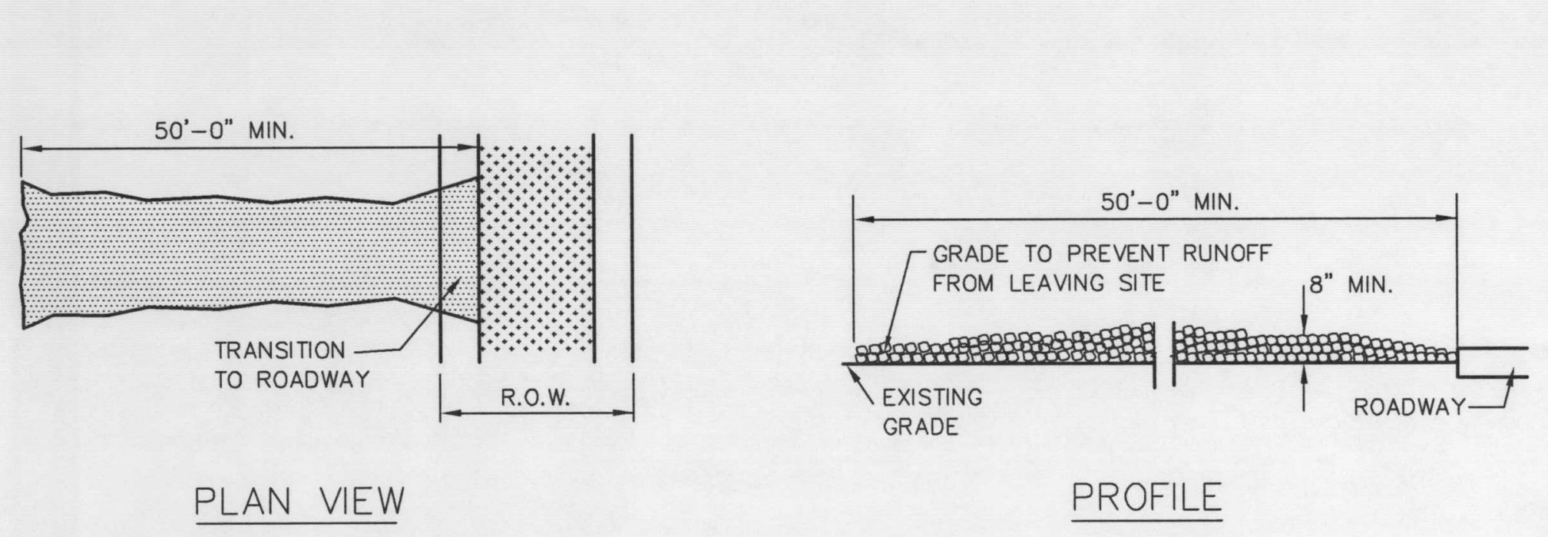
NOTES:

1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SHIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 3"-5" OPEN GRADED ROCK, OR TOED-IN 6" WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 4" INCHES.
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6 INCH WIRE STAPLES ON 2 FOOT CENTERS ON BOTH EDGES AND SKIRT, OR STAKED USING 3/8 INCH DIAMETER REBAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6 INCHES TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE 6 GA. 6" X 6" WIRE MESH, 18 INCHES ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF SIX INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN NOTE 8 ABOVE.

C-0.7.2

TRIANGULAR SEDIMENT FILTER DIKE

SCALE: N.T.S.



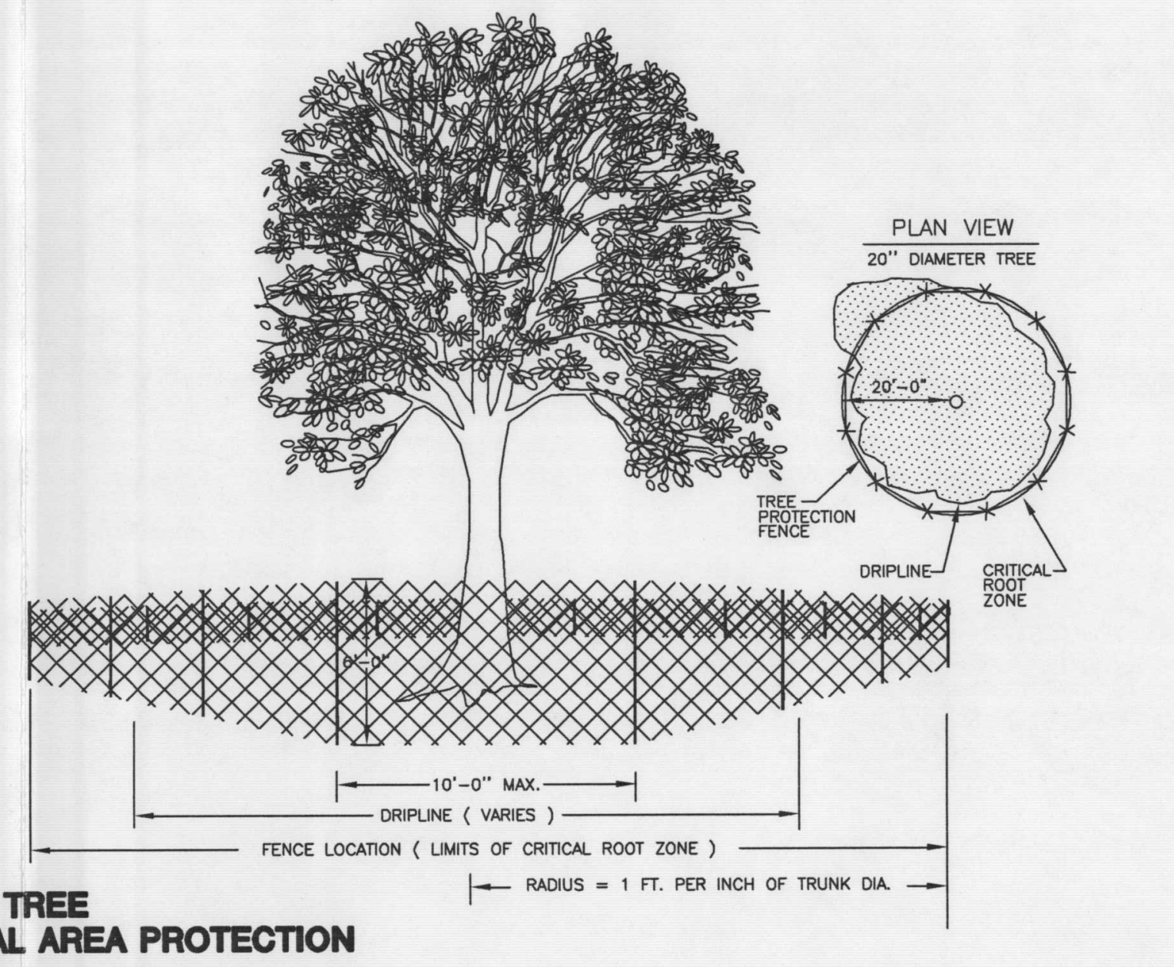
NOTES:

1. STONE SIZE- 3 TO 5 INCH OPEN GRADED ROCK.
2. LENGTH- AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS- NOT LESS THAN 8 INCHES.
4. WIDTH- NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING- WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED STRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE- ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
8. THE STABILIZED CONSTRUCTION ENTRANCE SHALL EXTEND TO THE HIGHWAY ROADWAY EDGE OF PAVEMENT. SILT FENCING SHALL ALSO BE PLACED ON EACH SIDE OF THE STABILIZED CONSTRUCTION ENTRANCE IN THE HIGHWAY RIGH-OF-WAY.

C-0.7.3

STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.



NOTES FOR TREE AND NATURAL AREA PROTECTION

1. PROTECTION FENCE SHALL BE CHAIN LINK WITH POSTS.
2. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
3. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO STANDARDS FOR TREE PROTECTION.
4. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
5. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
6. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE) , FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   - (A) SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
   - (B) ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING
   - (C) WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
   - (D) OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
7. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   - (A) WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
   - (B) WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
   - (C) WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING;
   - (D) WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS.

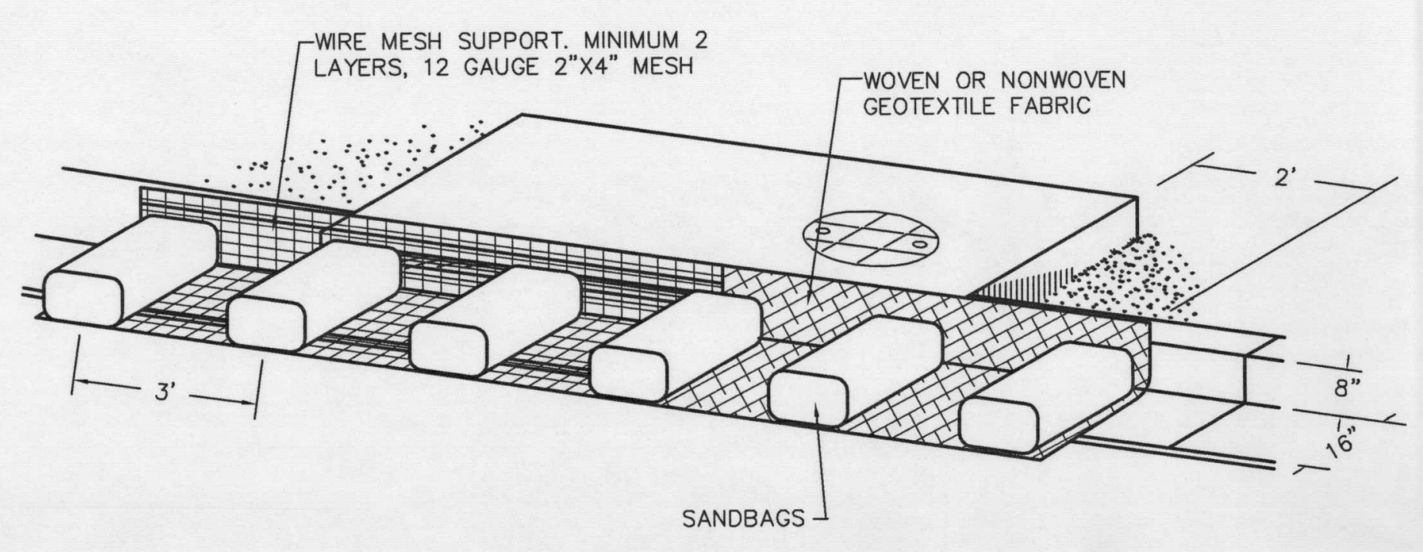
SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.

8. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
9. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
10. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
11. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
12. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
13. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.).
14. ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES
15. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NON-COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

C-0.7.4

TREE PROTECTION

SCALE: N.T.S.



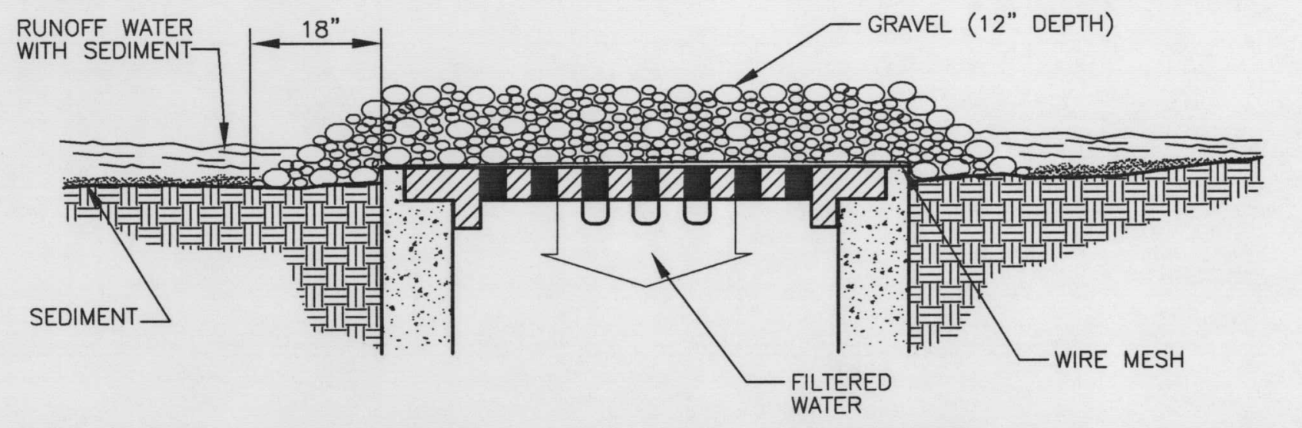
NOTES:

1. WHEN A SANDBAG IS FILLED WITH MATERIAL, THE OPEN END OF THE SANDBAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CHORD.
2. INLET PROTECTION SHALL BE PLACED OVER THE MOUTH OF THE INLET WITH A 2 FOOT OVERLAP ON EITHER SIDE.
3. THE FABRIC COVER AND SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE.
4. THE SKIRT SHALL BE WEIGHTED WITH ONE 18"X24"X6" SANDBAG EVERY 3 FEET.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF FOUR INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
7. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN NOTE 6 ABOVE.

C-0.7.5

CURB INLET PROTECTION BARRIER

SCALE: N.T.S.



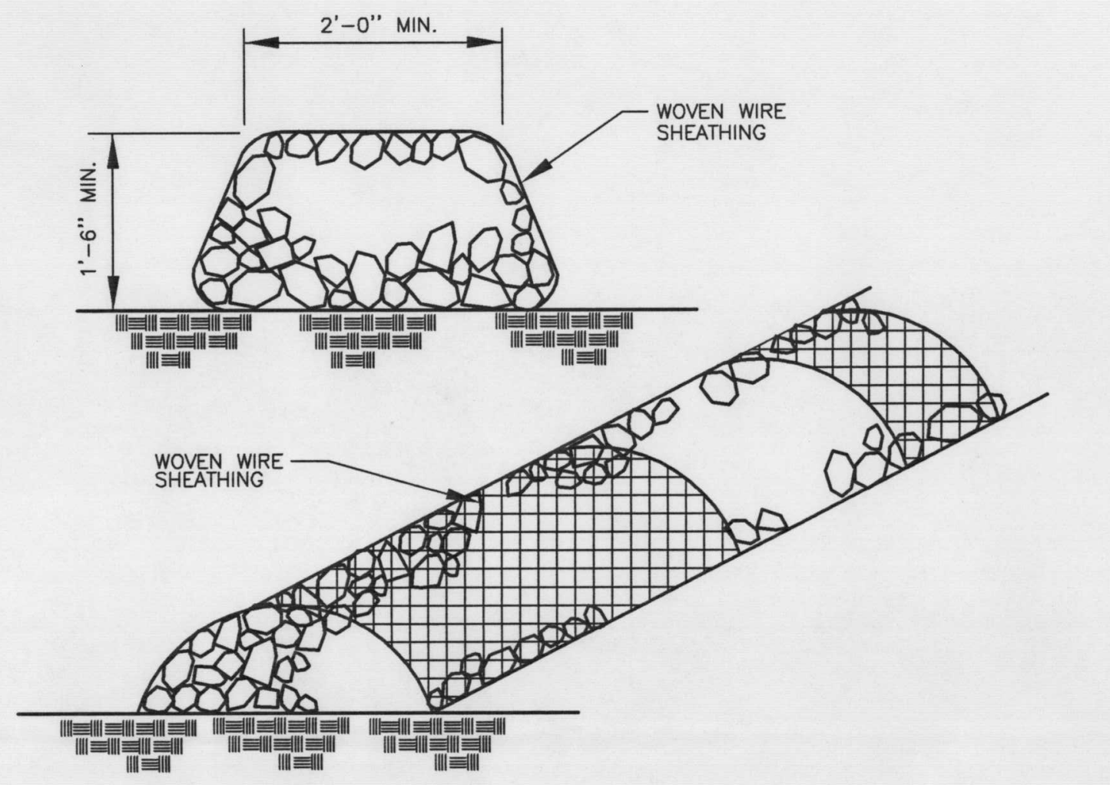
NOTE:

- A. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
- B. AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ABOVE. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
- C. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS IT'S FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

C-0.7.6

GRATE INLET PROTECTION BARRIER

SCALE: N.T.S.



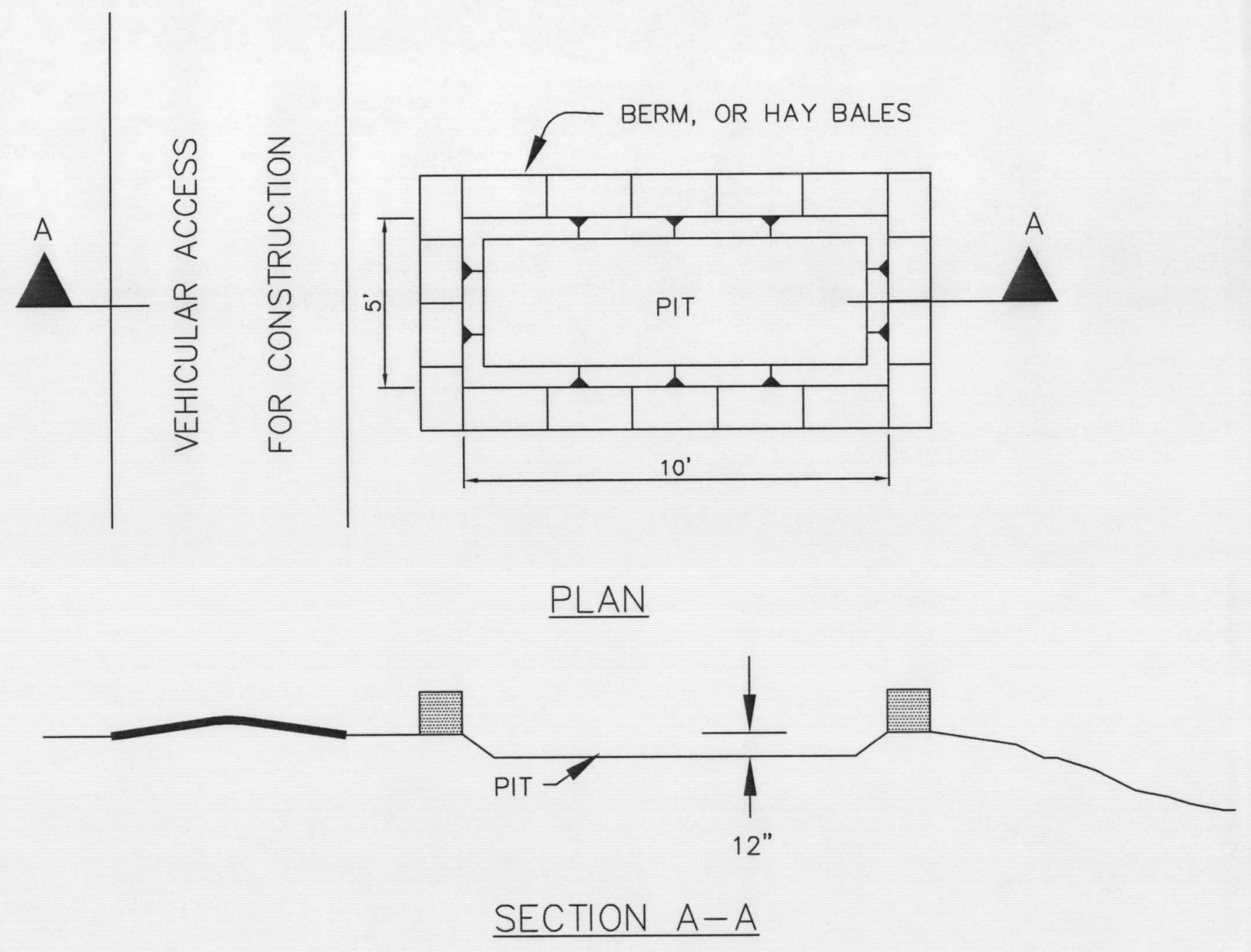
NOTES:

1. USE ONLY OPEN GRADED ROCK 4-8 INCH DIAMETER FOR STREAMFLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE - WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.
7. WHEN PLACED IN THE HIGHWAY RIGHT-OF-WAY SHALL MAINTAIN A MAXIMUM 6:1 SLOPE.

C-0.7.7

ROCK BERM

SCALE: N.T.S.



GENERAL NOTES:

Detail illustrates minimum dimensions. Pit can be increased in size depending on expected frequency of use.

If hay bales are used, they shall be placed in accordance with details shown on Exhibit for hay bales.

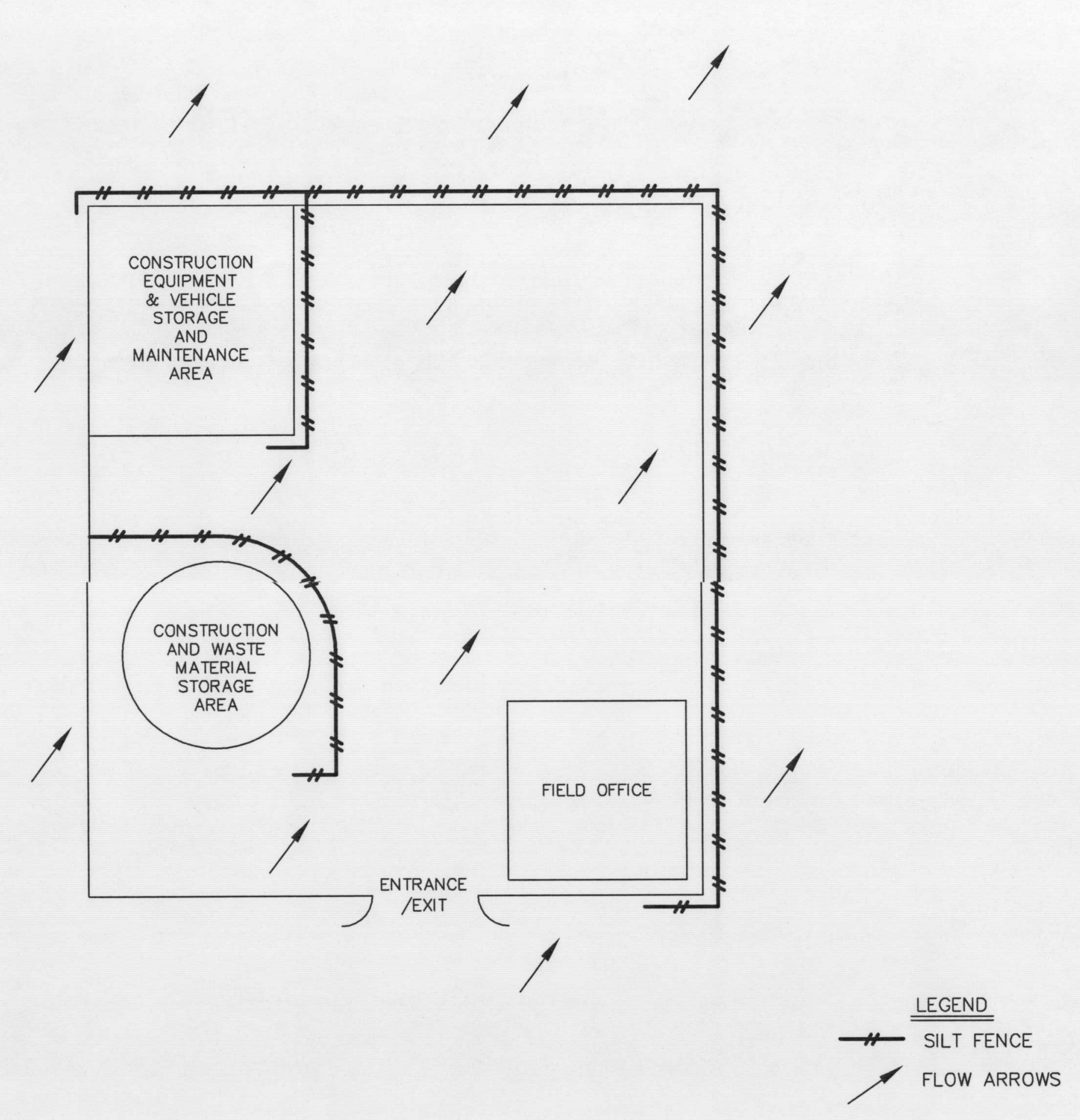
Washout pit shall be located in an area easily accessible to construction traffic.

Washout pit shall not be located in areas subject to inundation from storm water runoff.

C-0.7.8

CONCRETE TRUCK WASHOUT PIT

SCALE: N.T.S.



C-0.7.9

TYPICAL CONSTRUCTION STAGING AREA

SCALE: N.T.S.

DATE	NO.	REVISION	APPROVAL

Bury+Partners
ENGINEERING SOLUTIONS
10000 San Pedro Avenue, Suite 100
San Antonio, TX 78216
Tel. (210)525-9090 Fax (210)525-0529

THE HOME DEPOT
BULVERDE, TEXAS

STORM WATER POLLUTION
PREVENTION PLAN DETAILS

PLOTTING SCALE: 1" = 1'
DATE REVISED: 06/27/05
FILE: G:\048\53\04853SWPD.dwg
DRAWN BY: ENW
DESIGNED BY: KPK
REVIEWED BY: CDA
PROJECT NO.: 048-53.30

SHEET
C-0.7

Date: Jun 21, 2005, 5:34pm User ID: cgilbert
File: G:\048\53\04853SWPD.dwg

A. Keeping Plans Current

The permittee must amend the storm water pollution prevention plan whenever:

1. There is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants to the waters of the United States which has not been addressed in the SWPPP; or

2. Results of Inspections or investigations by site operators, local, state, tribal or federal officials indicate the SWPPP is proving ineffective in eliminating or significantly minimizing pollutants from sources identified in Part IX.A.7., or is otherwise not achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity.

B. Modifying the SWPPP Based on Results of Inspections

Based on the results of the inspection, the SWPPP shall be modified as necessary (e.g., show additional controls on map and/or revise description of controls) to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP shall be completed within seven (7) calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation must be completed before the next storm event. If implementation before the next anticipated storm event is impracticable, they must be implemented as soon as practicable.

C. Updating SWPPP to Stay in Compliance With State/Tribal and/or Local Regulations

Storm water pollution prevention plans must be updated as necessary to remain consistent with any changes applicable to protecting surface water resources in sediment and erosion site plans or site permits, or storm water management site plans or site permits approved by state, tribal and/or local officials for which the permittee receives written notice.

This SWPPP will be amended as necessary to stay current with all state/tribal and/or local regulations affecting storm water runoff from this project.

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A. Inspections Frequency

Qualified personnel (provided by the permittee or cooperatively by multiple permittees) must inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every fourteen (14) calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. Where sites have been finally or temporarily stabilized, runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or frozen ground exists), or during seasonal arid periods in arid areas (areas with an average annual rainfall of 0 to 10 inches) and semi-arid areas (areas with an average annual rainfall of 10 to 20 inches) such inspections must be conducted at least once every month.

An alternative to the above-described inspection schedule may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

Utility line installation, pipeline construction and other examples of long, narrow, linear construction activities may provide inspection personnel with limited access to the site. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils and increase the potential for erosion. In these circumstances, controls must be inspected as described above or as described above for the alternative, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the site.

Date Frozen Conditions Began	Date Land Disturbance Suspended	Date Thaw Conditions Expected	Date Monthly Inspections Began	Date Monthly Inspections Ended

See Appendix 4.0 for Inspection Reports.

B. Inspection of Disturbed and Storage Areas

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Sediment and erosion control measures identified in the SWPPP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.

C. Qualifications of Inspectors

"Qualified personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to access conditions at the site that could impact stormwater quality and the effectiveness of the BMPs selected to control the quality of the stormwater discharges.

The qualifications of the inspector(s) are in Appendix 3.0 of the SWPPP.

A. Notice of Termination (NOT)

A Notice of Termination (NOT) is attached to the SWPPP and will be completed by the permitted parties once the site is stabilized or once their operational control of the site is terminated. To meet the definition of final stabilization, the site must have reached permanent vegetation equal to 70% of native background coverage on all portions of the site not covered by roof or pavement before the NOT is filed.

If a Construction Site Notice was required to be submitted to the local MS4, project termination is accomplished by sending a copy of the NOT to the local MS4.

B. Procedure for Filing a Notice of Termination (NOT)

A Notice of Termination is attached to the SWPPP and will be completed by the permitted parties to terminate coverage after one of the following conditions is met.

1. Permittee is no longer the operator of the site (i.e. all houses turned over to homeowners); or
2. Final stabilization has been achieved on all disturbed areas.

C. Where to Submit

Permittee shall submit a Notice of Termination to the following address:

Texas Commission on Environmental Quality
Storm Water & General Permits Team, MC-228
P.O. Box 13087
Austin, TX 78711-3087

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PART XVII.
Detailed Drawings of the BMPs Proposed for Use on the Site

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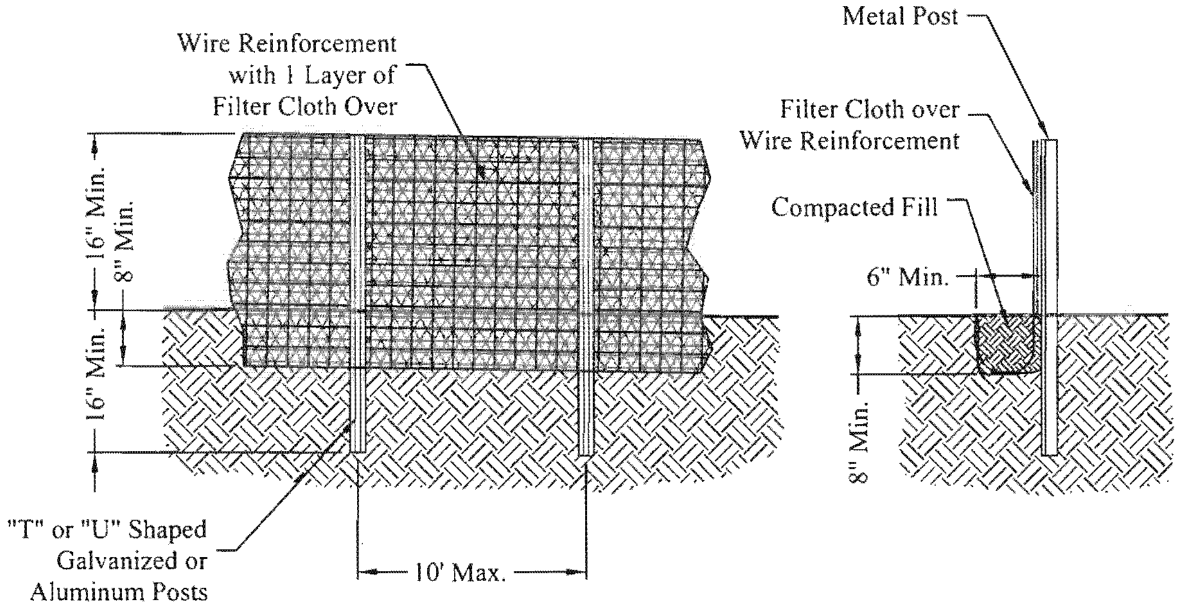
Reinforced Silt Fence



Definition

A temporary barrier of Geotextile Class "F" over wire reinforcement used to intercept sediment laden runoff from small drainage areas.

Purpose

The purpose of silt fence is to reduce velocity and allow the deposition of transported sediment to occur. Limits imposed by ultraviolet light on the stability of the fabric will dictate the maximum period that the silt fence may be used.

1. Silt fence provides a barrier that can collect and hold debris and soil, preventing the material from entering critical areas, streams, streets, etc.
2. Silt fence can be used where the installation of a dike would destroy sensitive areas; woods, wetlands, etc.

Conditions where the Practice Applies

Silt Fence is limited to intercepting sheet flow runoff from limited distances according to slope. It provides filtering and velocity dissipation to promote gravity settling of sediment.

Design Criteria

Steel posts must be used. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped, folded, and stapled to prevent sediment bypass. The length of the flow contributing to silt fence shall conform to the following limitations.

Slope (%)	Slope Steepness	Slope Length (Ft.) (Maximum)	Silt Fence Length (Ft.) (Maximum)
0-10	0-10:1	Unlimited	Unlimited
10-20	10:1-5:1	200	1,500
20-33	5:1-3:1	100	1,000
33-50	3:1-2:1	100	500
50 +	2:1 +	50	250

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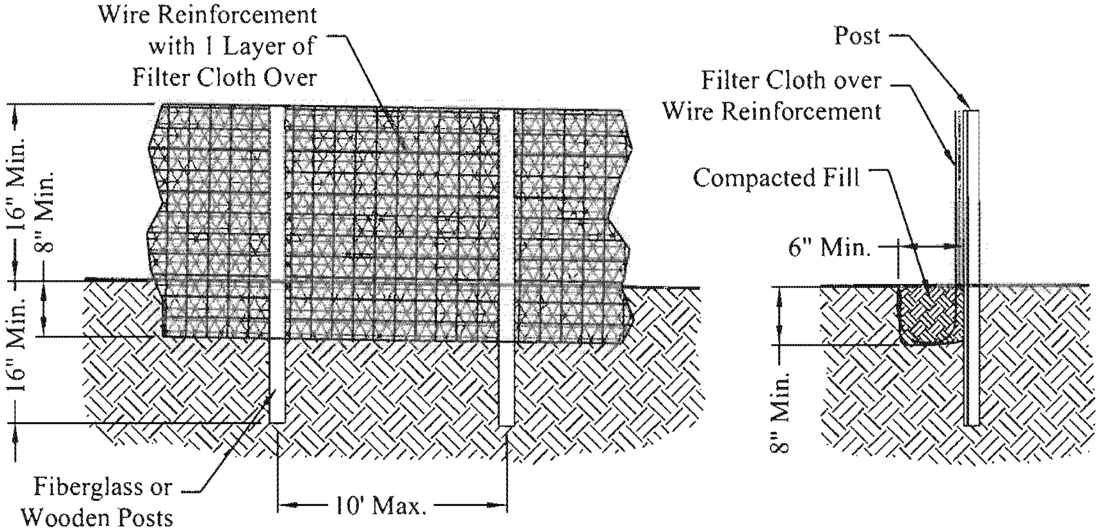
Reinforced Silt Fence

(For Use In Colorado Only)



Definition

A temporary barrier of Geotextile Class "F" used to intercept sediment laden runoff from small drainage areas.

Purpose

The purpose of silt fence is to reduce velocity and allow the deposition of transported sediment to occur. Limits imposed by ultraviolet light on the stability of the fabric will dictate the maximum period that the silt fence may be used.

1. Silt fence provides a barrier that can collect and hold debris and soil, preventing the material from entering critical areas, streams, streets, etc.
2. Silt fence can be used where the installation of a dike would destroy sensitive areas; woods, wetlands, etc.

Conditions where the Practice Applies

Silt Fence is limited to intercepting sheet flow runoff from limited distances according to slope. It provides filtering and velocity dissipation to promote gravity settling of sediment.

Design Criteria

Fiberglass or Wood Posts may be used in certain instances. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped, folded, and stapled to prevent sediment bypass.

2" X 2" minimum wooden posts must be used.

The length of the flow contributing to silt fence shall conform to the following limitations.

Slope (%)	Slope Steepness	Slope Length (Ft.) (Maximum)	Silt Fence Length (Ft.) (Maximum)
2	0-50:1	Unlimited	Unlimited
2-10	50:1-10:1	125	1,000
10-20	10:1-5:1	100	750
20-33	5:1-3:1	60	500
33-50	3:1-2:1	40	250
50 +	> 2:1	20	125

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ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
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Fax (972) 829-8101
www.paradigm-engineering.com

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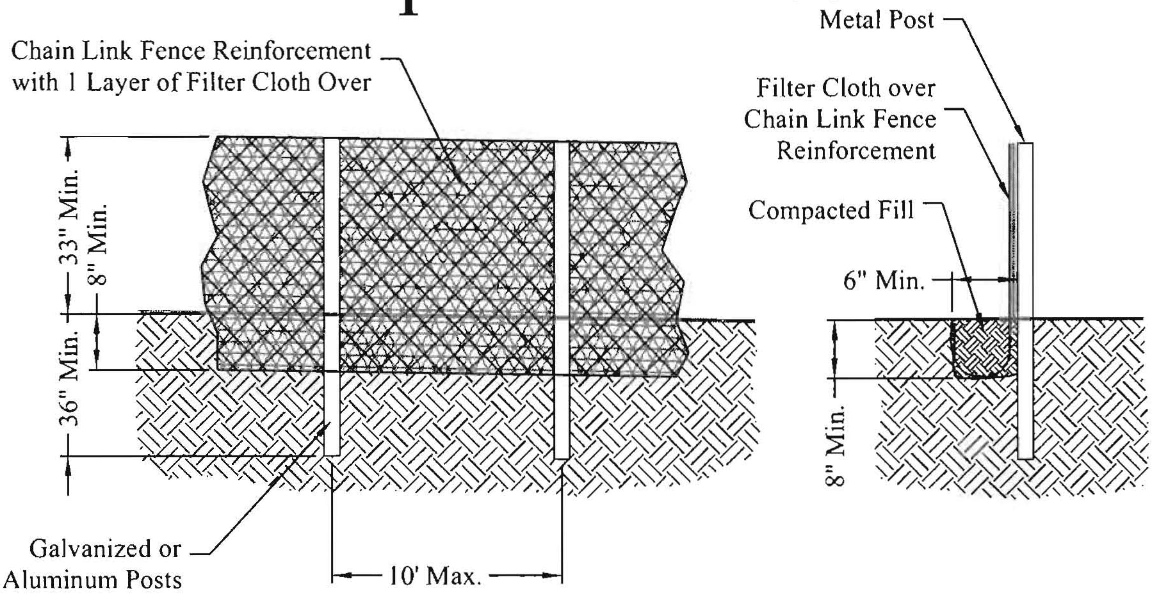
Super Silt Fence



Definition

A temporary barrier of Geotextile Class "F" over chain link fence reinforcement used to intercept sediment laden runoff from small drainage areas.

Purpose

The purpose of silt fence is to reduce velocity and allow the deposition of transported sediment to occur. Limits imposed by ultraviolet light on the stability of the fabric will dictate the maximum period that the silt fence may be used.

1. Super Silt fence provides a barrier that can collect and hold debris and soil, preventing the material from entering critical areas, streams, streets, etc.
2. Super Silt fence can be used where the installation of a dike would destroy sensitive areas; woods, wetlands, etc.

Design Criteria

Steel posts must be used. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped, folded, and stapled to prevent sediment bypass. Fencing shall be 42" in height and constructed in accordance with the Details for Chain Link Fencing. Use 42" fabric and 6' length posts.

1. The poles do not need to set in concrete.
2. Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground with a 6" wide trench.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence. The length of the flow contributing to silt fence shall conform to the following limitations.

Slope (%)	Slope Steepness	Slope Length (Ft.) (Maximum)	Silt Fence Length (Ft.) (Maximum)
0-10	0-10:1	Unlimited	Unlimited
10-20	10:1-5:1	200	1,500
20-33	5:1-3:1	100	1,000
33-50	3:1-2:1	100	500
50 +	2:1 +	50	250

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ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
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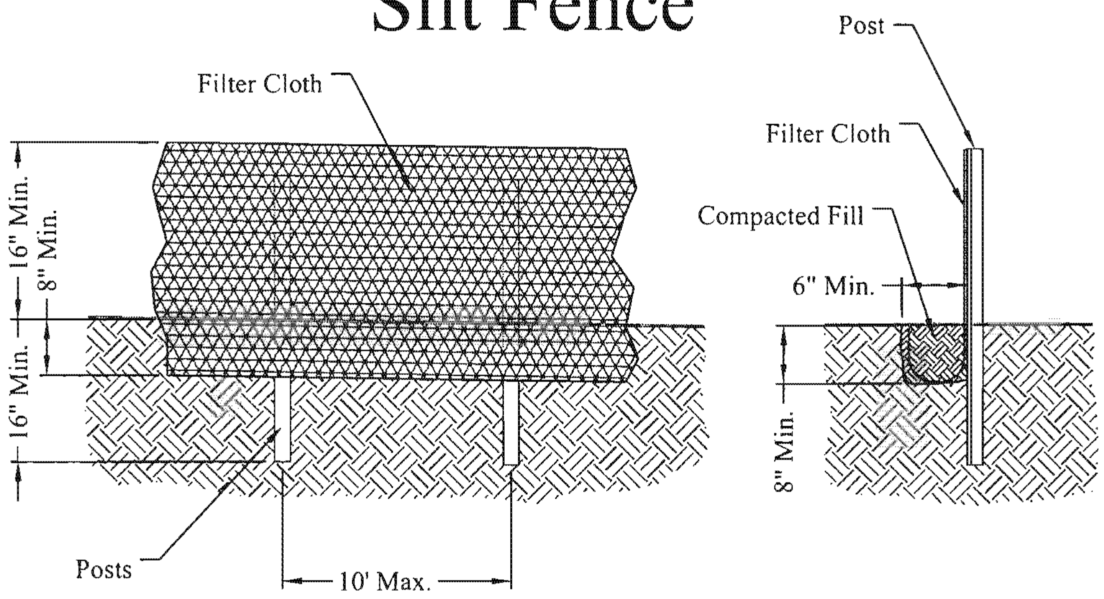
Silt Fence



Definition

A temporary barrier of Geotextile Class "F" used to intercept sediment laden runoff from small drainage areas.

Purpose

The purpose of silt fence is to reduce velocity and allow the deposition of transported sediment to occur. Limits imposed by ultraviolet light on the stability of the fabric will dictate the maximum period that the silt fence may be used.

1. Silt fence provides a barrier that can collect and hold debris and soil, preventing the material from entering critical areas, streams, streets, etc.
2. Silt fence can be used where the installation of a dike would destroy sensitive areas; woods, wetlands, etc.

Conditions where the Practice Applies

Silt Fence is limited to intercepting sheet flow runoff from limited distances according to slope.

It provides filtering and velocity dissipation to promote gravity settling of sediment.

Design Criteria

Wood or Steel Posts may be used in certain instances. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped, folded, and stapled to prevent sediment bypass.

* If wood post are to be used they must meet the following specifications:

1 $\frac{1}{2}$" X 1 $\frac{1}{2}$" minimum square posts, or 1 $\frac{3}{4}$ " minimum diameter round post

* If metal posts are to be used they must be standard "T" or "U" post weighing not less than 1 lb. per linear foot.

The length of the flow contributing to silt fence shall conform to the following limitations.

Slope (%)	Slope Steepness	Slope Length (Ft.) (Maximum)	Silt Fence Length (Ft.) (Maximum)
2	0-50:1	Unlimited	Unlimited
2-10	50:1-10:1	125	1,000
10-20	10:1-5:1	100	750
20-33	5:1-3:1	60	500
33-50	3:1-2:1	40	250
50 +	> 2:1	20	125

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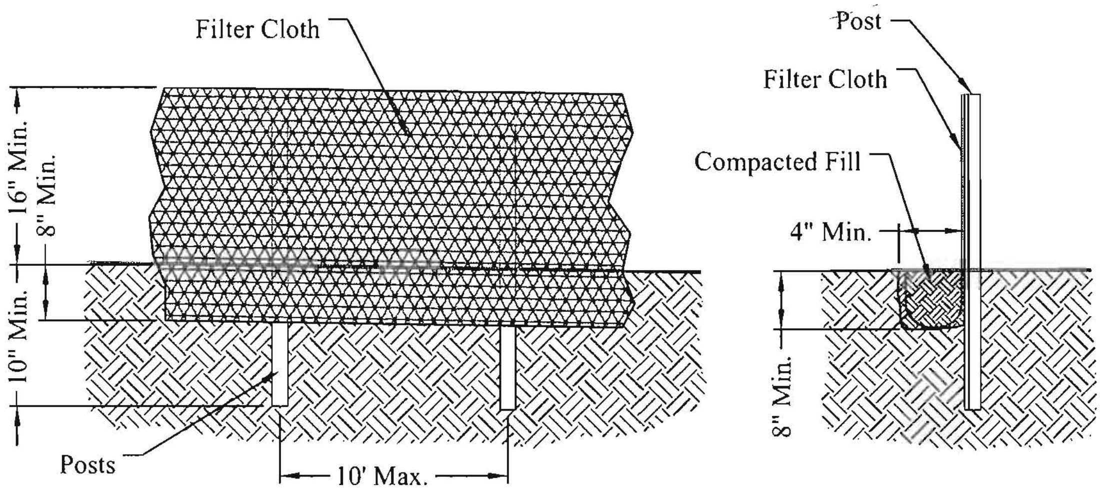
Silt Fence
(For Use In Southeast U.S. Only)



Definition

A temporary barrier of Geotextile Class "F" used to intercept sediment laden runoff from small drainage areas.

Purpose

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Design Criteria

Wood or Steel Posts may be used in certain instances. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped, folded, and stapled to prevent sediment bypass.

* If wood post are to be used they must meet the following specifications:
1 " X 2 " minimum posts, or 4 " minimum diameter round post
* If metal posts are to be used they must be standard "T" or "U" post weighing not less than 1.33 lb. per linear foot.

The length of the flow contributing to silt fence shall conform to the following limitations.

Slope (%)	Slope Steepness	Slope Length (Ft.) (Maximum)	Silt Fence Length (Ft.) (Maximum)
2	0-50:1	Unlimited	Unlimited
2-10	50:1-10:1	125	1,000
10-20	10:1-5:1	100	750
20-33	5:1-3:1	60	500
33-50	3:1-2:1	40	250
50 +	> 2:1	20	125

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ENGINEERING, Ltd.

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Lewisville, TX 75057
Office (972) 829-8100
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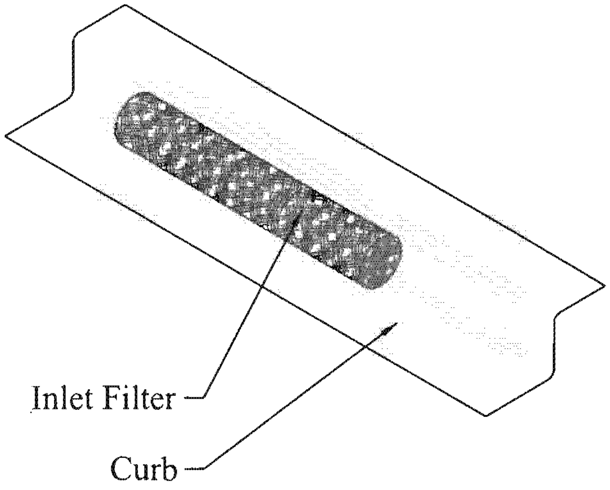
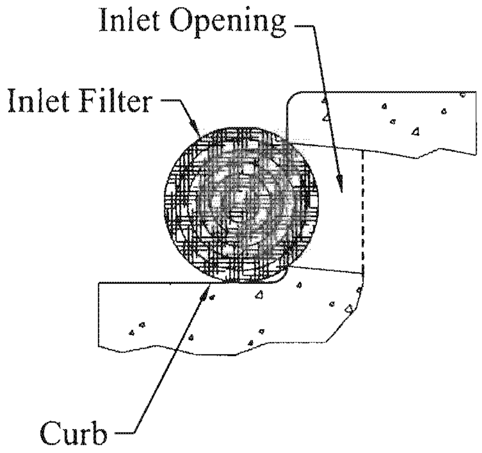
Curb Storm Drain Inlet Filter





Cross-Section

Definition

A filter constructed around a storm drain inlet.

Purpose

Storm drain inlet protection is used to filter sediment laden runoff before it enters the storm drain system.

Conditions where the Practice Applies

Storm drain inlet protection is a secondary sediment control device and is not to be used in place of a sediment trapping device unless approved by the appropriated approval authority.

Design Criteria

Storm drain inlet protection shall be used when the drainage area to an inlet is disturbed and the following conditions prevail:

1. It is not possible to temporarily divert the storm drain outfall into a sediment trapping device.
2. Watertight blocking of the inlets is not advisable.
3. Drainage area is less than 1/4 acre for curb or standard inlet protections and 1 acre for elevated or yard inlets For yard inlets, the total for inlets in series must be 1 acre or less and the contributing drainage area must have slopes flatter than 5 percent. **Maintenence requirements for storm drain inlet protection are intense, due to the susceptibility to clogging. When the structure does not drain completely within 24 hours after a storm event, it is clogged. When this occurs, accumulated sediment must be removed and the geotextile fabric or filtering device must be cleaned and replaced.**

Several methods of covering inlets have been developed recently. It is important to use methods that have been proven effective. Follow local ordinances. Some communities do not allow covering of storm inlets due to the possibility of increased flooding. Several other important design considerations include traffic safety, elimination of seepage at the ends and underneath the filter cloth, and prevention of the filter entering the inlet.

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ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
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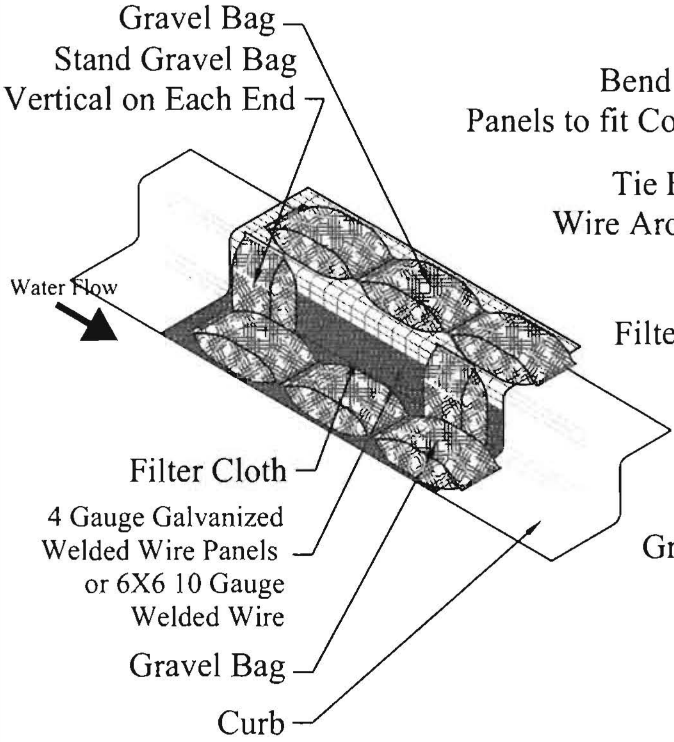
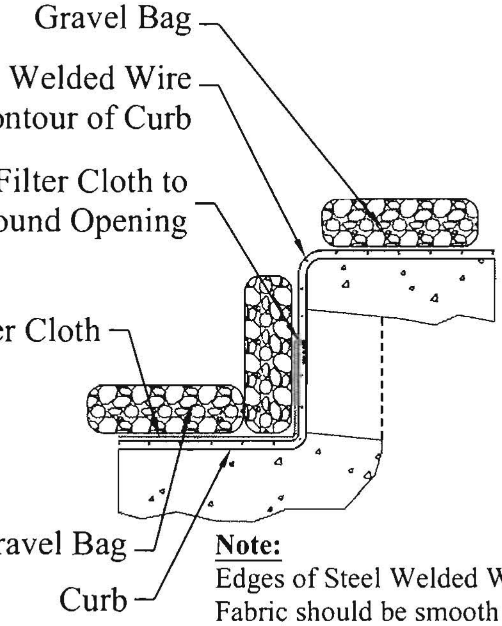
Curb Storm Drain Inlet Protection





Note:
Edges of Steel Welded Wire Fabric should be smooth to resist tearing of filter cloth.

Cross-Section

Definition

A filter constructed around a storm drain inlet.

Purpose

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Conditions where the Practice Applies

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2. Watertight blocking of the inlets is not advisable.
3. Drainage area is less than 1/4 acre for curb or standard inlet protections and 1 acre for elevated or yard inlets. For yard inlets, the total for inlets in series must be 1 acre or less and the contributing drainage area must have slopes flatter than 5 percent. **Maintenence requirements for storm drain inlet protection are intense, due to the susceptibility to clogging. When the structure does not drain completely within 24 hours after a storm event, it is clogged. When this occurs, accumulated sediment must be removed and the geotextile fabric or filtering device must be cleaned and replaced.**

Several methods of covering inlets have been developed recently. It is important to use methods that have been proven effective. Follow local ordinances. Some communities do not allow covering of storm inlets due to the possibility of increased flooding. Several other important design considerations include traffic safety, elimination of seepage at the ends and underneath the filter cloth, and prevention of the filter entering the inlet.

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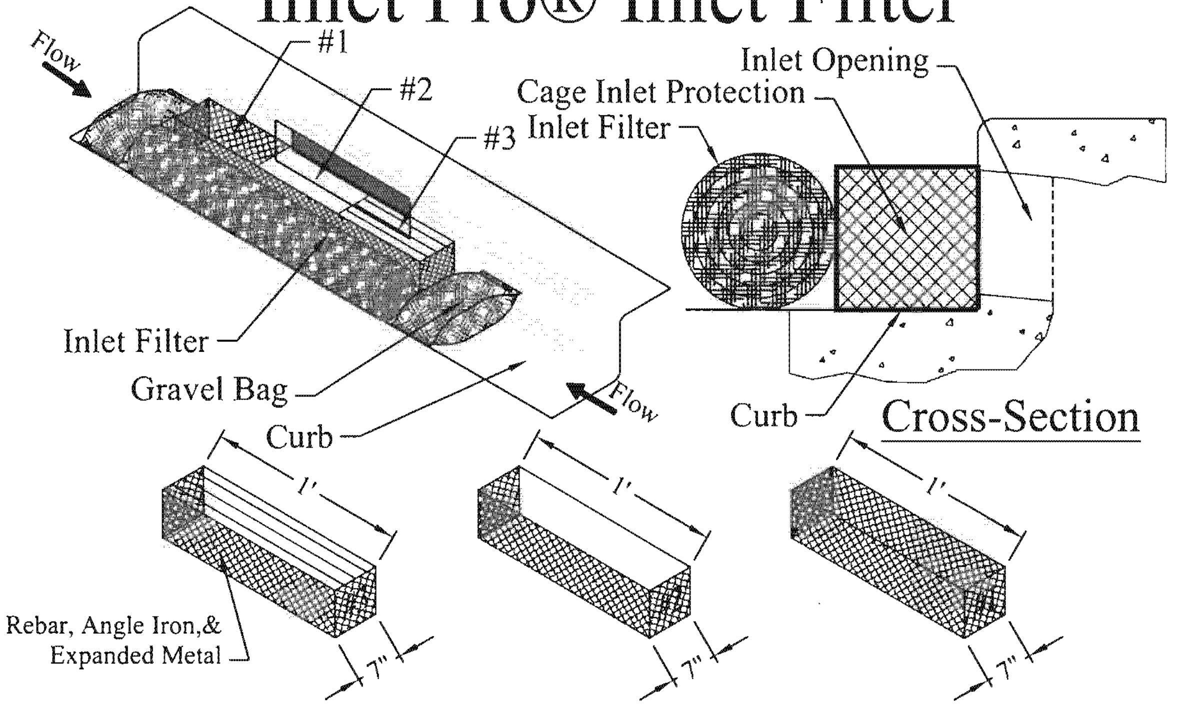
CURB STORM DRAIN INLET PROTECTION

Construction Specifications

1. Bend a continuous piece of 6" x 6" 10-gauge welded wire fabric, or 6" x 6" 4-gauge galvanized welded wire panels, to form a "Z" shape as shown on the drawing. An alternative method is to cut wire in sections and hinge sections together. The width of the wire should extend at least 12" past the left and right sides of the drain opening.
2. Tie a continuous piece of approved Geotextile fabric the same width as the wire mesh. Fold the fabric along the top for added tie strength at wire intersections.
3. The Geotextile should extend out from the curb the same distance as the wire fabric and should extend up the wire fabric so that approximately 2/3 of the drain opening is covered. This allows for sediment storage and overflow during periods of high rainfall. **Note: The Geotextile opening size should be selected based on the filtered soil gradation testing.**
4. Place the assembly against the inlet throat. The top of wire fabric is held in place by gravel bags. Place gravel bags against the curb and the fabric to prevent seepage between the curb and the filter cloth. Place small gravel bags around the opening to prevent seepage under the filter cloth and also to form a sediment trap. Graded gravel is preferable for primary filtering. The infiltration rate through the bag should permit the allowable flow rate. **Caution: Gravel bags should be placed off the street surface unless a suitable reflector is used for traffic safety.** To protect the grate inlet if in front of the curb opening, place the gravel bags between the curb and outside edge of the grate inlet.

Inlet Pro® Inlet Filter



Detail Views

Definition

A filter constructed around a curb storm drain inlet consisting of a rectangular metal cage and a sediment filtering device.

Purpose

Storm drain inlet protection is used to filter sediment laden runoff before it enters the storm drain system.

Conditions where the Practice Applies

Storm drain inlet protection is a secondary sediment control device and is not to be used in place of a sediment trapping device unless approved by the appropriated approval authority.

Design Criteria

Storm drain inlet protection shall be used when the drainage area to an inlet is disturbed and the following conditions prevail:

1. It is not possible to temporarily divert the storm drain outfall into a sediment trapping device.
2. Watertight blocking of the inlets is not advisable.
3. Drainage area is less than 1/4 acre for curb or standard inlet protections and 1 acre for elevated or yard inlets. For yard inlets, the total for inlets in series must be 1 acre or less and the contributing drainage area must have slopes flatter than 5 percent. **Maintenence requirements for storm drain inlet protection are intense, due to the susceptibility to clogging. When the structure does not drain completely within 24 hours after a storm event, it is clogged. When this occurs, accumulated sediment must be removed and the geotextile fabric or filtering device must be cleaned and replaced.**

Several methods of covering inlets have been developed recently. It is important to use methods that have been proven effective. Follow local ordinances. Some communities do not allow covering of storm inlets due to the possibility of increased flooding. Several other important design considerations include traffic safety, elimination of seepage at the ends and underneath the filter cloth, and prevention of the filter entering the inlet.

Contact Information

Priest Construction Inc.
744 Amanda Pines Drive
Parker, CO 80138
Phone: 720-851-1668

PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
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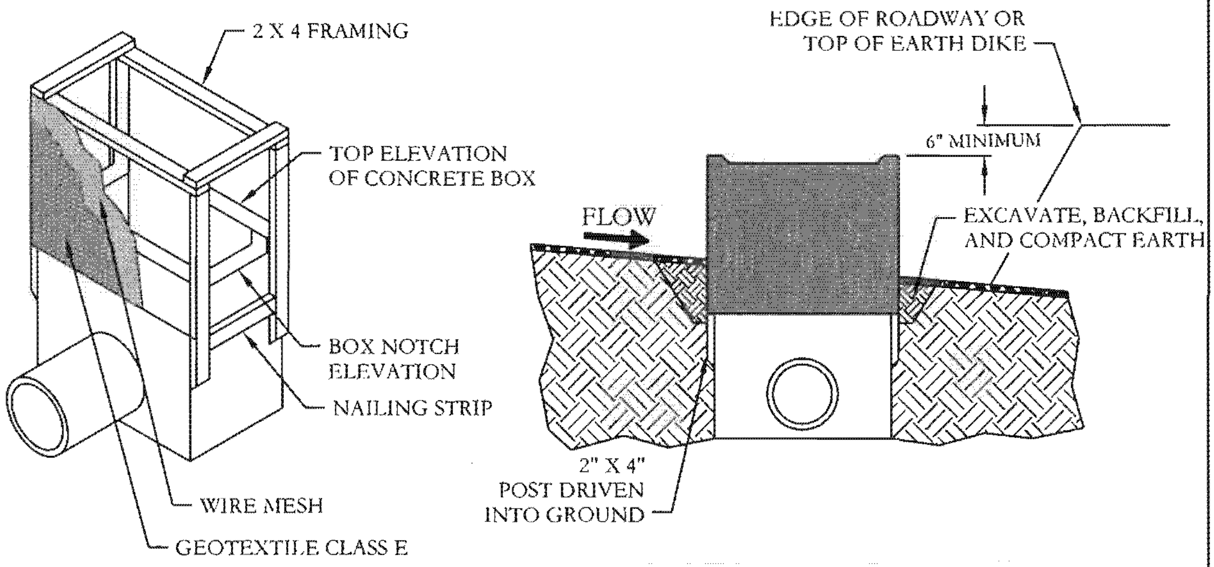
Box Inlet Protection

(During Construction)



Definition

A Best Management Practice filter constructed around a storm drain box inlet.

Purpose

Prevent sediment and pollutants from entering the storm water pipe system during construction.

Conditions where the Practice Applies

It is a secondary sediment control device used as a backup in case sediment is transported from the primary source of erosion.

Design Criteria

The maximum drainage area is ¼ acre.

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.
2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
3. Stretch the ½" x ½" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

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ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

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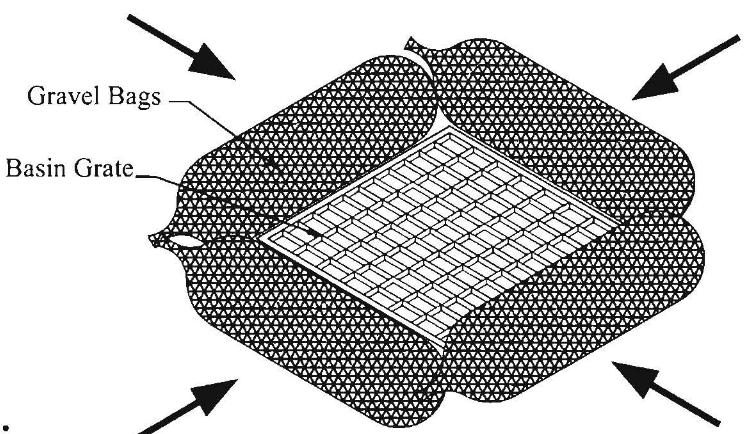
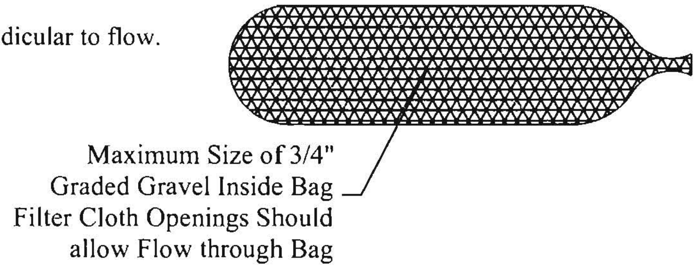
Gravel Bag Inlet Protection

FOR USE IN PAVED AREAS



Note:

1. Gravel bags will be used perpendicular to flow.



Definition

A filter constructed around a storm drain inlet.

Purpose

Storm drain inlet protection is used to filter sediment laden runoff before it enters the storm drain system.

Conditions where the Practice Applies

Storm drain inlet protection is a secondary sediment control device and is not to be used in place of a sediment trapping device unless approved by the appropriated approval authority.

Design Criteria

Storm drain inlet protection shall be used when the drainage area to an inlet is disturbed and the following conditions prevail:

1. It is not possible to temporarily divert the storm drain outfall into a sediment trapping device.
2. Watertight blocking of the inlets is not advisable.
3. Drainage area is less than 1/4 acre for curb or standard inlet protections and 1 acre for elevated or yard inlets. For yard inlets, the total for inlets in series must be 1 acre or less and the contributing drainage area must have slopes flatter than 5 percent. **Maintenence requirements for storm drain inlet protection are intense, due to the susceptibility to clogging. When the structure does not drain completely within 24 hours after a storm event, it is clogged. When this occurs, accumulated sediment must be removed and the geotextile fabric or filtering device must be cleaned and replaced.**

Several methods of covering inlets have been developed recently. It is important to use methods that have been proven effective. Follow local ordinances. Some communities do not allow covering of storm inlets due to the possibility of increased flooding. Several other important design considerations include traffic safety, elimination of seepage at the ends and underneath the filter cloth, and prevention of the filter entering the inlet.

PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

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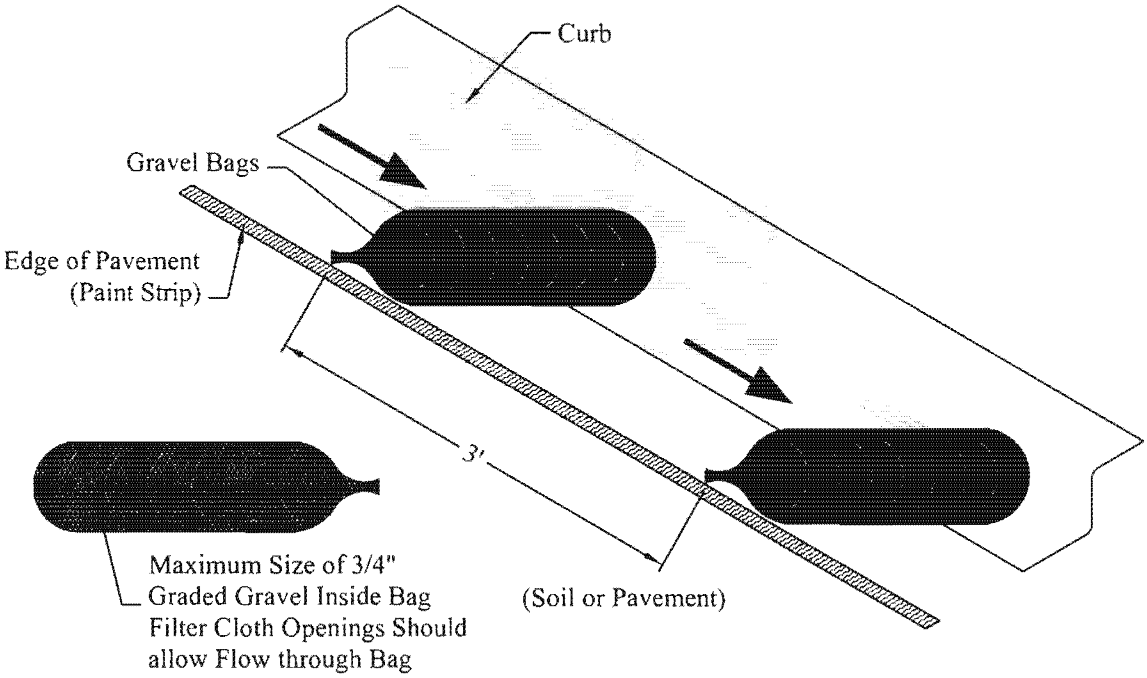
Gravel Bag Gutter Check

FOR USE IN PAVED AREAS



Definition

A filter and velocity dissipator constructed of gravel placed in a bag of geotextile fabric.

Purpose

Gravel Bags are used to reduce runoff velocities to non-erosive rates and filter out sediment.

Conditions where the Practice Applies

Storm drain inlet protection is a secondary sediment control device and is not to be used in place of a sediment trapping device unless approved by the appropriated approval authority. Use where curb or grate inlets are not present in streets or the concrete curb is complete and the street is graded but not paved.

Design Criteria

Storm drain inlet protection shall be used when the drainage area to an inlet is disturbed and the following conditions prevail:

1. It is not possible to temporarily divert the storm drain outfall into a sediment trapping device.
2. Watertight blocking of the inlets is not advisable.
3. Drainage area is less than 1/4 acre for curb or standard inlet protections and 1 acre for elevated or yard inlets. For yard inlets, the total for inlets in series must be 1 acre or less and the contributing drainage area must have slopes flatter than 5 percent. **Maintenence requirements for storm drain inlet protection are intense, due to the susceptibility to clogging. When the structure does not drain completely within 24 hours after a storm event, it is clogged. When this occurs, accumulated sediment must be removed and the geotextile fabric or filtering device must be cleaned and replaced.**

PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

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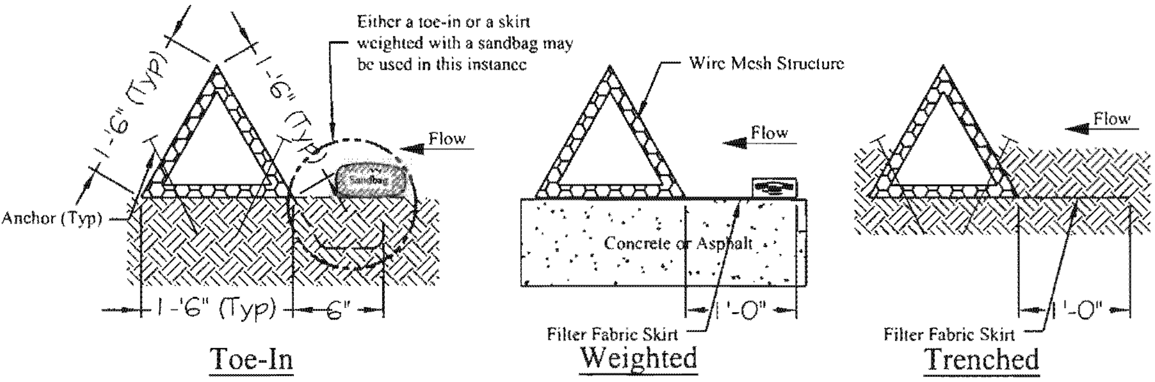
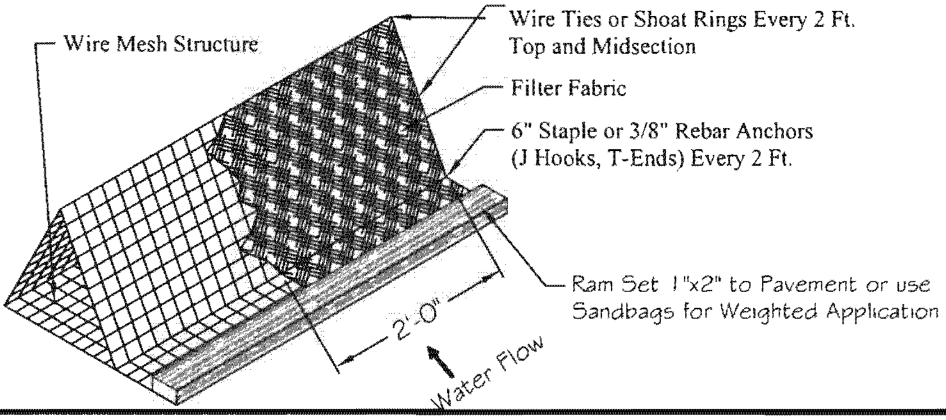
Triangular Filter Fabric Fence



Toe-In

Weighted

Trenched



Definition

A temporary sediment barrier used where laden runoff from small drainage areas occurs.

Purpose

The purpose is to reduce runoff velocity and filter sediment from construction areas.

Conditions where the Practice Applies

A triangular filter fabric fence is effective on all sites with concrete or asphalt surfaces where runoff will flow onto adjacent properties from parking lots or similar areas.

Design Criteria

1. Dikes are to be installed along a line of constant elevation (along a contour line).
2. Maximum slope perpendicular to the dike is 1:1.
3. Maximum drainage flow to the dike shall be 11 CFS per 100 linear feet of dike.
4. Maximum distance of flow to dike should be 200 feet or less.
5. Maximum concentrated flow to dike shall be 1 CFS.
6. If 50% or less of soil, by weight, passes the U.S. Standard sieve #200, select the equivalent opening size (E.O.S.) to retain 85% of the soil.
7. Maximum equivalent opening size shall be 70 (#70 Sieve).
8. Minimum equivalent opening size shall be 100 (#100 Sieve).
9. If 85% or more of soil, by weight, passes the U.S. Standard sieve #200, triangular sediment dike shall not be used due to clogging.
10. Sufficient room for the operation of sediment removal equipment shall be provided between the dike and other obstructions in order to properly remove sediment.
11. The ends of the dike shall be turned upgrade to prevent bypass of stormwater.

PARADIGM
ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

TRIANGULAR FILTER FABRIC FENCE

Limitations

Ponding will likely occur directly adjacent to the dike, which may possibly cause flooding.

Triangular sediment filter dikes are not effective for conditions, which include substantial concentrated flows or when they are not constructed along a contour line due to the potential for flow concentration and overtopping.

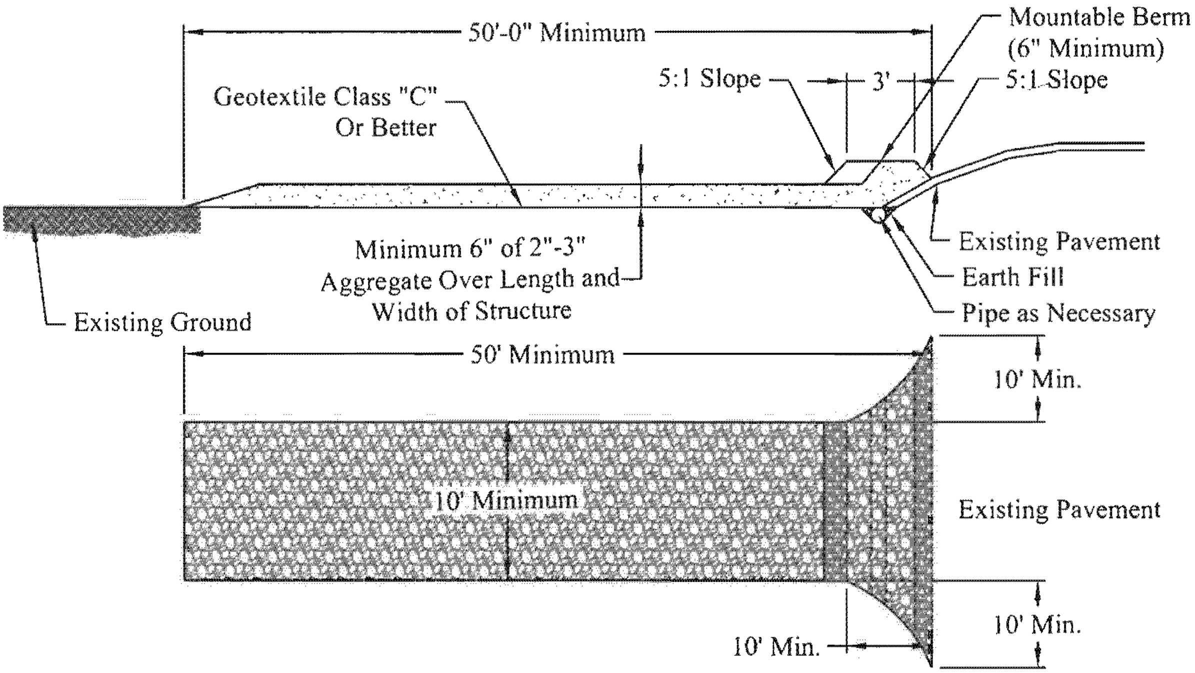
Maintenance Requirements

Inspection should be made on a regular basis, especially after large (>0.5") storm events. If the fabric becomes clogged, it should be cleaned or if necessary, replaced.

Sediment should be removed when it reaches approximately 6" in depth. In addition, inspections should be made on a regular basis to check the structural integrity of the dike. If structural deficiencies are found, the dike should become immediately repaired or replaced.

As with silt fence, integrity of the filter fabric is important to the effectiveness of the dike. Overlap between dike sections must be checked on a regular basis and repaired if deficient.

Stabilized Construction Entrance



Definition

A stabilized layer of aggregate that is underlain with Geotextile Class "C" (See Standards for Geotextile). Stabilized entrances are located at any point where traffic enters or leaves a construction site.

Purpose

The purpose of the stabilized construction entrance is to reduce tracking of sediment onto streets or public rights-of-way and provide a stable area for entrance or exit from the construction site.

Conditions where the Practice Applies

1. Stabilized construction entrances shall be located at points of construction ingress and egress.
2. For single family residences, the entrance should be located at the permanent driveway.
3. Stabilized construction entrances should not be used on existing pavement.

Design Criteria

1. Length - Minimum of 50'-0" (30'-0" for single residence lot).
2. Width - Minimum of 10'-0", should be flared at the existing road to provide a turning radius.
3. Geotextile Class "C" shall be placed over the exiting ground prior to placing stone. The Plan approval authority may not require geotextile fabric for single family residence.
4. Stone-crushed aggregate 2"-3" (See Standards for Geotextile and Rock). Recycled concrete equivalent may be used also. The rock should be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - All the surface water flowing to or diverted toward construction entrances shall be piped under the entrance to maintain positive drainage. Pipe installed under the construction entrance shall be protected with a mountable berm. The pipe shall be sized according to the drainage, with the minimum diameter being 6".
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters of leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

PARADIGM
ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

STABILIZED CONSTRUCTION ENTRANCE

Construction Specifications

1. Length - minimum of 50' (30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single-family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

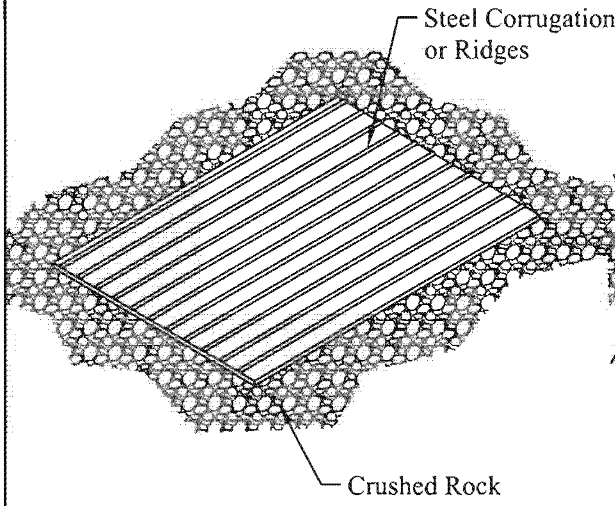
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the stabilized construction entrance is located at the high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

Location

A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

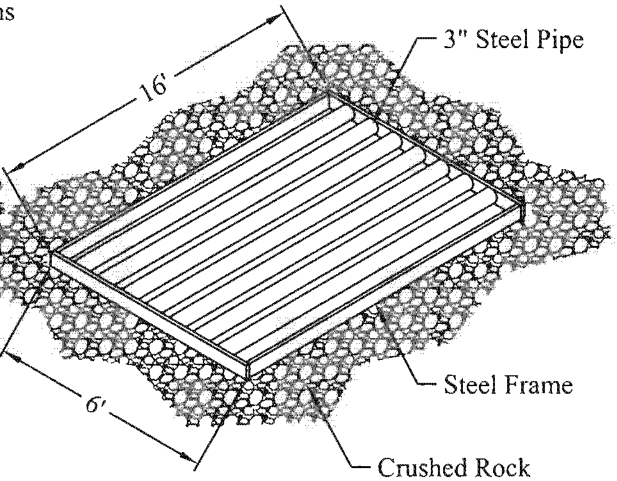
Rumble Strips

(Used with crushed rock stabilized construction entrance)



Option #1

(Panels with Corrugations or Ridges)



Option #2

(Pipes welded to a Steel Frame)

Definition

Metal panels with steel ridges or corrugations or pipes welded to a steel frame located at any point where traffic enters or leaves a construction site.

Purpose

To reduce tracking of sediment onto streets or public right-of-ways and provide a stable area for entrance or exit.

Conditions where the Practice Applies

Use on unpaved entrances and exits only to prevent tracking mud onto paved roads.

Design Criteria

1. Use 4 panels with the dimensions shown above.
2. Place panels in the center of a regular crushed rock entrance.
3. Panels are placed on top of crushed rock.
4. Vehicles must approach the panels with sufficient speed to remove mud.

Note:

Keep panels clean.

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ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

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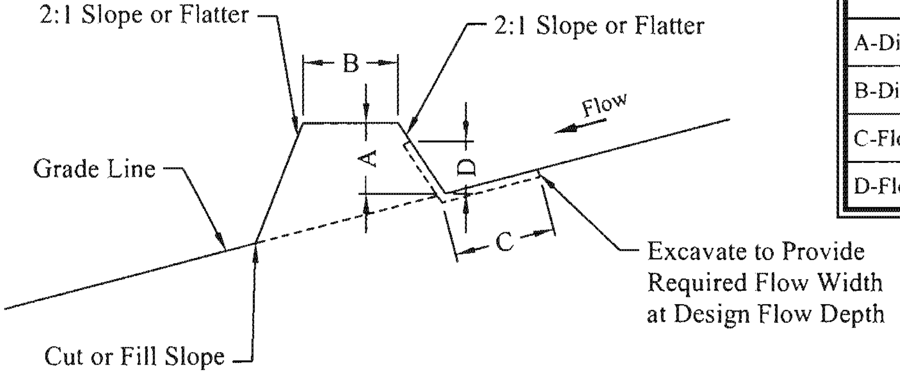
Earth Dike



	Dike A	Dike B
A-Dike Height	18"	30"
B-Dike Width	24"	36"
C-Flow Width	4'	6'
D-Flow Depth	12"	24"

Definition

A temporary berm or ridge of soil, compacted, stabilized, and located in such a manner as to direct storm water to a desired location.

Purpose

The purpose of the earth dike is to direct runoff to a sediment trapping device which reduces the potential for erosion and sedimentation. Earth dikes can also be used for diverting clean water away from disturbed areas.

Conditions where the Practice Applies

Earth dikes are often constructed across disturbed areas and around construction sites such as parking lots and subdivisions. The dikes shall remain in place until the disturbed ares are permanently stabilized.

Earth dikes are constructed:

1. To divert sediment laden runoff from a disturbed area to a sediment trapping device.
2. Across disturbed areas to shorten overland flow distances.
3. To direct sediment laden water along the base of slopes to a trapping device.
4. To divert clear water from an undisturbed area to a stabilized outlet. Runoff shall be discharged at a non-erosive velocity.

Design Criteria

The basis for the engineering design shall be the 2-year 24-hour duration storm using NRCS criteria, assuming the worst soil cover conditions to prevail in the contributing drainage area over the life of the earth dike. Manning's Equation shall be used to determine earth dike flow channel velocities associated with the developed discharges. The Manning's Roughness coefficients to be used in the equation are 0.025 for seed and mulch, 0.03 for soil stabilization matting or sod, and 4"-7" stone use 0.045 for flow depths up to 1' (Dike A) and 0.038 for flow depths between 1 and 2 feet (Dike B). Allowable flow channel velocities shall be less than 4 fps for seed and mulch, less than 6 fps for stabilization matting or sod, and less than 8 fps for 4"-7" stone.

EARTH DIKE

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Earth dikes having longitudinal slopes flatter than 1% should have spot elevations along the flow line.

2. Diverted runoff from the disturbed areas shall be directed to a sediment trapping devices.

3. Diverted runoff from undisturbed areas shall outlet directly onto an undisturbed, stabilized area at a non-erosive velocity (<4 fps for grass).

4. All trees, brush, stumps, and obstructions shall be removed and disposed of so as not to interfere with the proper functioning of the earth dike berm and flow channel.

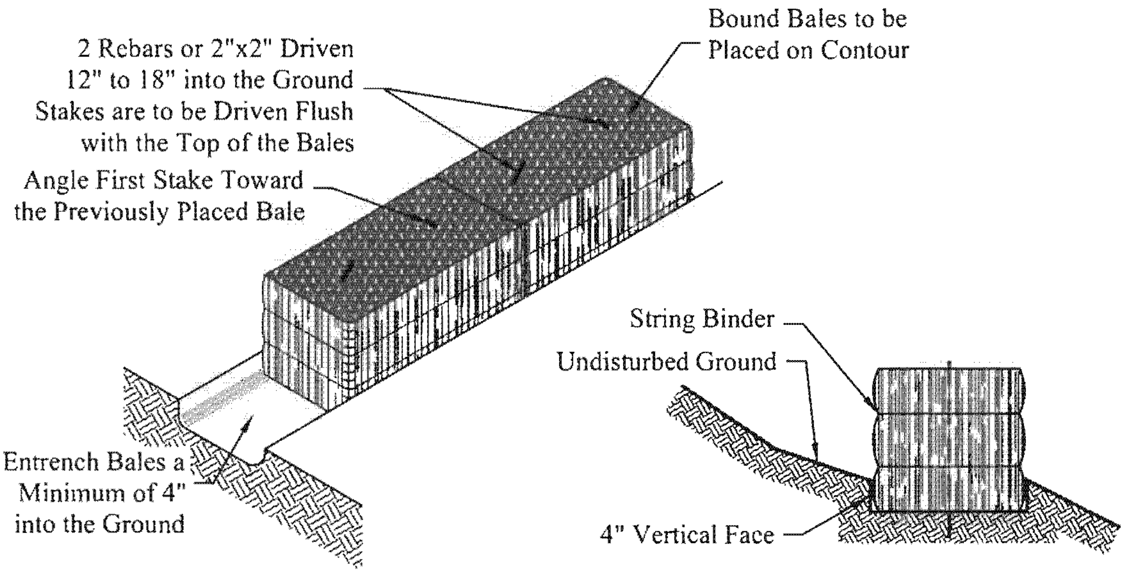
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities, which will impede normal flow.

6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the earth dike berm and flow channel.

8. Inspection and maintenance must be provided periodically and after each rain event.

Straw Bale Dike



Definition

Straw bale dikes are temporary barriers of straw or similar material used to intercept and direct surface runoff.

Purpose

The straw bale dike filters sediment from runoff so that deposition of transported sediment can occur. The straw bale dike is used to intercept or direct sediment laden runoff to a sediment trap so that deposition of transported sediment can occur.

Conditions where the Practice Applies

1. The use of straw bale dikes is not recommended as a primary sediment control device. Straw bale dikes clog and deteriorate rapidly and require frequent maintenence.
2. Straw bale dikes can be used to intercept sheet flow only. They cannot be used as velocity checks in swales, or placed where they will intercept concentrated flow.
3. Straw bale dikes can be used only on projects that will be completed within three months.
4. Straw bale dikes should not be used on slopes exceeding 5:1.
5. The length of straw bale dikes must conform to the following limitations:

Slope (%)	Slope Steepness	Slope Length (Ft.)	Dike Length (Ft.)
0-2	Flatter than 50:1	300	500
2-10	50:1 to 10:1	125	500
10-20	10:1 to 5:1	100	500

PARADIGM
ENGINEERING, Ltd.

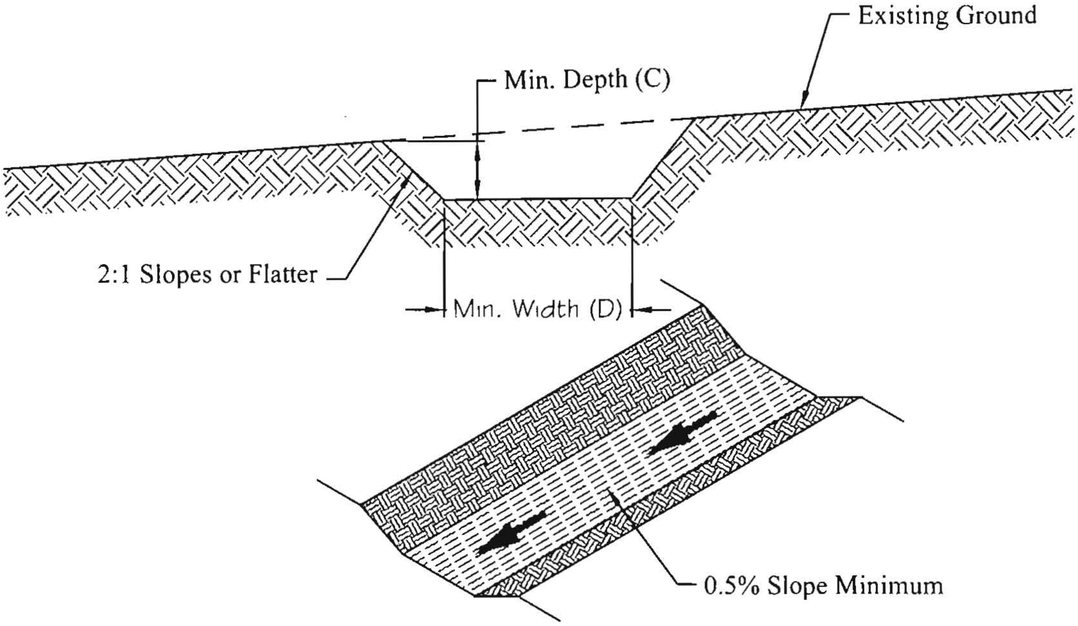
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

STRAW BALE DIKE

Construction Specifications

1. Bales shall be placed at the toe of the slope, on the contour, and in a row with the ends of each bale tightly abutting the adjacent bales.
2. Each bale shall be entrenched in the soil a minimum of 4-inches and placed so the bindings are horizontal.
3. Bales shall be securely anchored on place by either two stakes or re-bars driven through the bale 12 to 18 inches into the ground. The first stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the top of the bale.
4. Straw bale dikes shall be inspected frequently and after each rain event and maintenance preformed as necessary.
5. All bales shall be removed when the site has been stabilized. The trench where the bales were located shall be graded flush and stabilized.

Temporary Swale



Definition

A temporary swale is a temporary, excavated drainage way constructed and located to convey runoff to a desired location.

Purpose

The purpose of a temporary swale is to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet or to intercept sediment laden water and divert it to a sediment trapping device.

Conditions Where Practice Applies

Temporary swales are constructed:

1. To divert sediment laden runoff from a disturbed area to a sediment trapping device.
2. Across disturbed areas to shorten overland flow distances.
3. To direct sediment laden water along the base of slopes to a trapping device.
4. To divert clear water from an undisturbed area to a stabilized outlet. Runoff shall be discharged at non-erosive velocities.

Design Criteria

The basis for engineering design shall be the 2-year, 24-hour duration storm using N.R.C.S. criteria, a ssuming the worst soil cover conditions to prevail in the contributing drainage area over the life of the earth dike. Manning's Equation shall be used to determine earth dike flow channel velocities associated with the developed discharges. The Manning's Roughness coefficients to be used in the equation are 0.025 for seed and mulch, 0.03 for soil stabilization matting or sod, and 4"-7" stone use 0.045 for flow depths up to 1 foot (Dike A) and 0.038 for flow depths between 1 and 2 feet (Dike B, See earth Dike). Allowable flow channel velocities shall be less than 4 fps for seed and mulch, less than 6 fps for stabilization matting or sod, and less than 8 fps for 4"-7" stone.

TEMPORARY SWALE

Construction Specifications

1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A-2, Standards and Specifications for Temporary Swale.

2. The check dam shall be constructed of 4" to 7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.

3. The top of the check dam shall be constructed so that the center is approximately 6 inches lower than the outer edges, forming a weir that water can flow across.

4. The maximum height of the check dam at the center shall not exceed 2'.

5. The upstream side of the check dam shall be lined with approximately 1' of 0.75" – 1.5" aggregate.

6. Accumulated sediment shall be removed when it has built up to half of the original height of the weir crest.

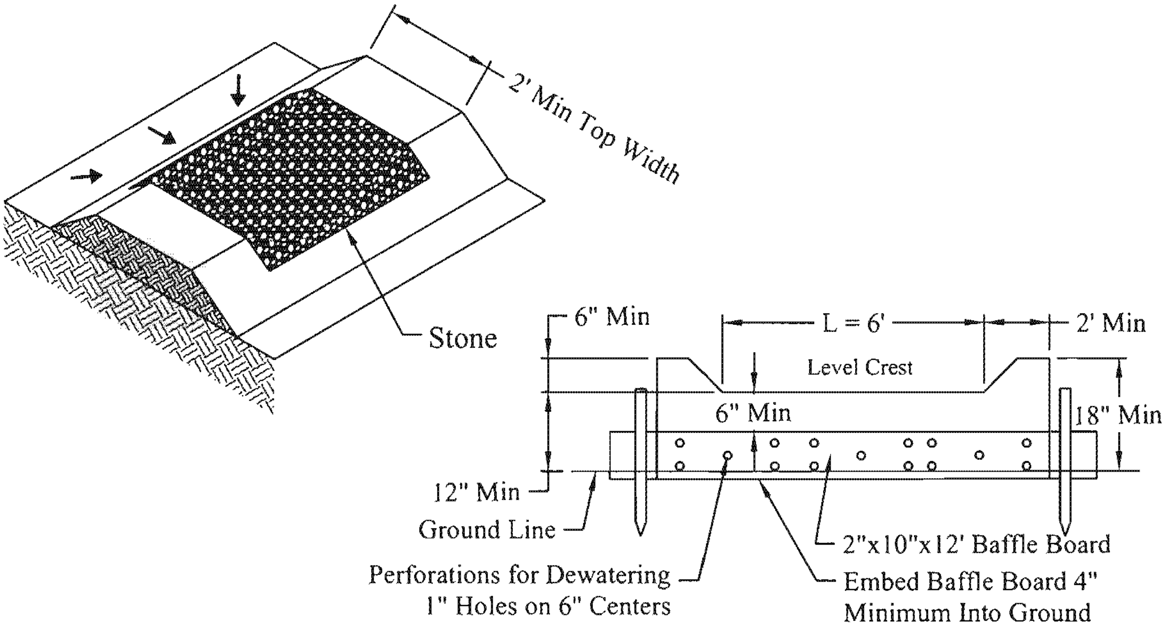
Sediment Removal

While this practice is not intended to be used for sediment trapping, some sediment will accumulate behind the check dam. Check dams should be checked periodically and after each significant rainfall. Accumulated sediment should be removed when it has reached half of the original height of the weir crest.

Check Dam Removal

In temporary swales and channels, check dams should be removed and the ditch filled in when it is no longer needed. In permanent channel structures, check dams may be removed when a permanent lining can be installed. In the case of grass-lined ditches, check dams may be removed when the grass has matured sufficiently to protect the swale or channel. The area beneath the check dams should be seeded and mulched immediately after they are removed.

Stone Outlet Structure



Definition

A temporary stone dike installed in conjunction with and as a part of an earth dike.

Purpose

The purpose of the Stone Outlet Structure is to filter sediment laden runoff, provide a protected outlet for an earth dike, provide for diffusion of concentrated flow, and allow the area behind the dike to dewater.

Conditions where the Practice Applies

Stone outlet structures apply to any point of discharge where there is a need to dispose of runoff at a protected outlet or to diffuse concentrated flow for the duration of the period of construction.
The drainage area to this practice shall be 1/2 acre or less.

Outlet

The stone outlet structure shall be located so as to discharge onto an already stabilized area or into a stable watercourse. Stabilization shall consist of complete vegetative cover, paving, etc., sufficiently established to be erosion resistant.

Design Criteria

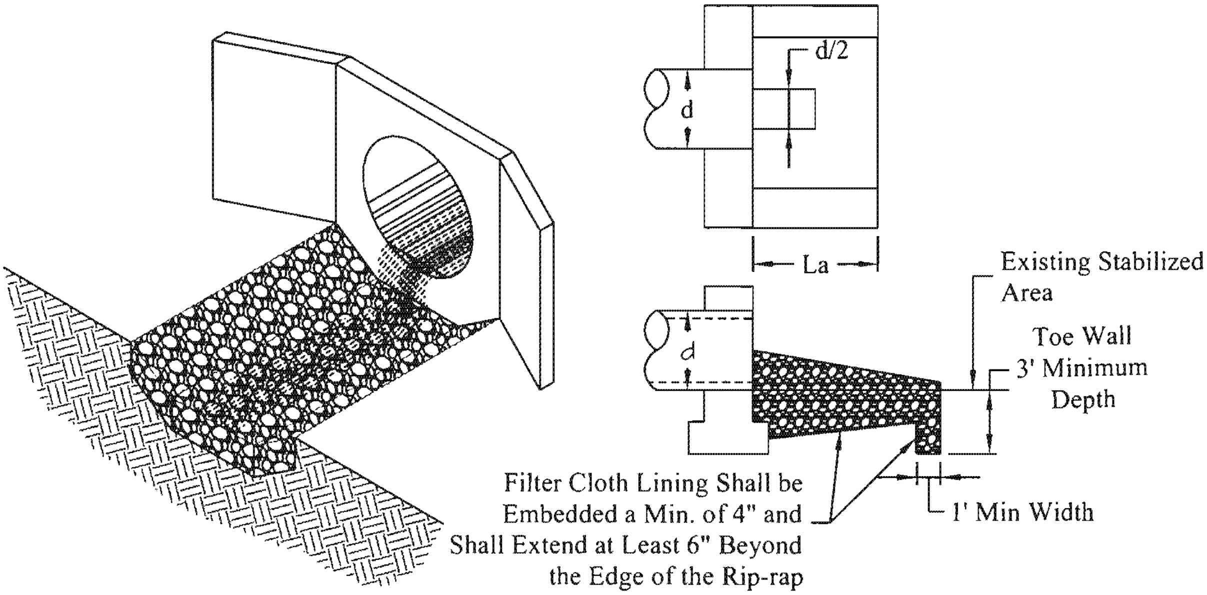
1. Refer to Material Specifications, Stone. Stone 2" to 3" diameter or recycled concrete equivalent is preferred but clean gravel may be used if stone is not available.
2. The crest of the stone dike shall be at least 6" lower than the lowest elevation of the top of the earth dike and shall be level.
3. The stone outlet structure shall be embedded into the soil a minimum of 4"
4. The minimum legth of the crest of the stone outlet structure shall be 6'.
5. The baffle board shall extend 1' into the dike and 4" into the ground and be staked in place.
6. The drainage area to this structure shall be less than 1/2 acre.

STONE OUTLET STRUCTURE

Construction Specifications

1. 2" to 3" stone or recycled concrete equivalent is preferred but clean gravel may be used if stone is not available.
2. The crest of the stone dike shall be at least 6" lower that the lowest elevation of the top of the earth dike and shall be level.
3. The stone outlet structure shall be embedded into the soil a minimum of 4".
4. The minimum length of the crest of the stone outlet structure shall be 6'.
5. The baffle board shall extend 1' into the dike and 4" into the ground and be staked in place.
6. The drainage area to this structure shall be less that 0.5 acre.

Rock Outlet Protection



Filter Cloth Lining Shall be Embedded a Min. of 4" and Shall Extend at Least 6" Beyond the Edge of the Rip-rap

---

Definition

Rock placed at the outfall of channels or culverts.

Purpose

The purpose of rock outlet protection is to reduce the velocity of flow to non-erosive rates in the receiving channel.

Conditions Where Practice Applies

This practice applies where discharge velocities and energies at the outlets of culverts are sufficient to erode the next downstream reach. This applies to outlets of all types such as sediment basins, storm water management ponds, and road culverts.

Design Criteria

The design method applies to sizing rock rip-rap and gabions to protect a downstream area. It does not apply to rock lining of channels or streams. Many counties and state agencies have regulations and design procedures established for dimensions, type, and size of materials, and locations where outlet protection is required.

Design Procedures

1. Investigate the downstream channel to assure that non-erosive velocities can be maintained.
2. Determine the tailwater condition at the outlet.
3. Using the discharge velocity and depth of flow, determine the rip-rap size and apron length required.
4. Calculate apron width at the downstream end if a flared section is to be used.

There are three classifications of rock outlet protection: (1.) Discharge to semi-confined section (maximum tailwater condition); (2.) Discharge to a confined channel section; (3.) Discharge to a flat area with no tailwater influence.

The outlet protection may be done using rock rip-rap, or gabions. Rip-rap thickness is 19", 32", and 46" for Class I, II, and III respectively. The stone chall consist of field stone and hewn quarry stone. The filter is a layer of material placed between the rip-rap and the underlaying soil surface to prevent soil movement into and through the rip-rap. Rip-rap shall have a filter placed under it in all cases. A filter can be gravel or Geotextile Class "C". Gabion baskets may be substituted for rock rip-rap. Gabions shall be of single unit construction. Place Geotextile under all gabions and follow manufacturer's specifications.

PARADIGM
ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

ROCK OUTLET PROTECTION

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

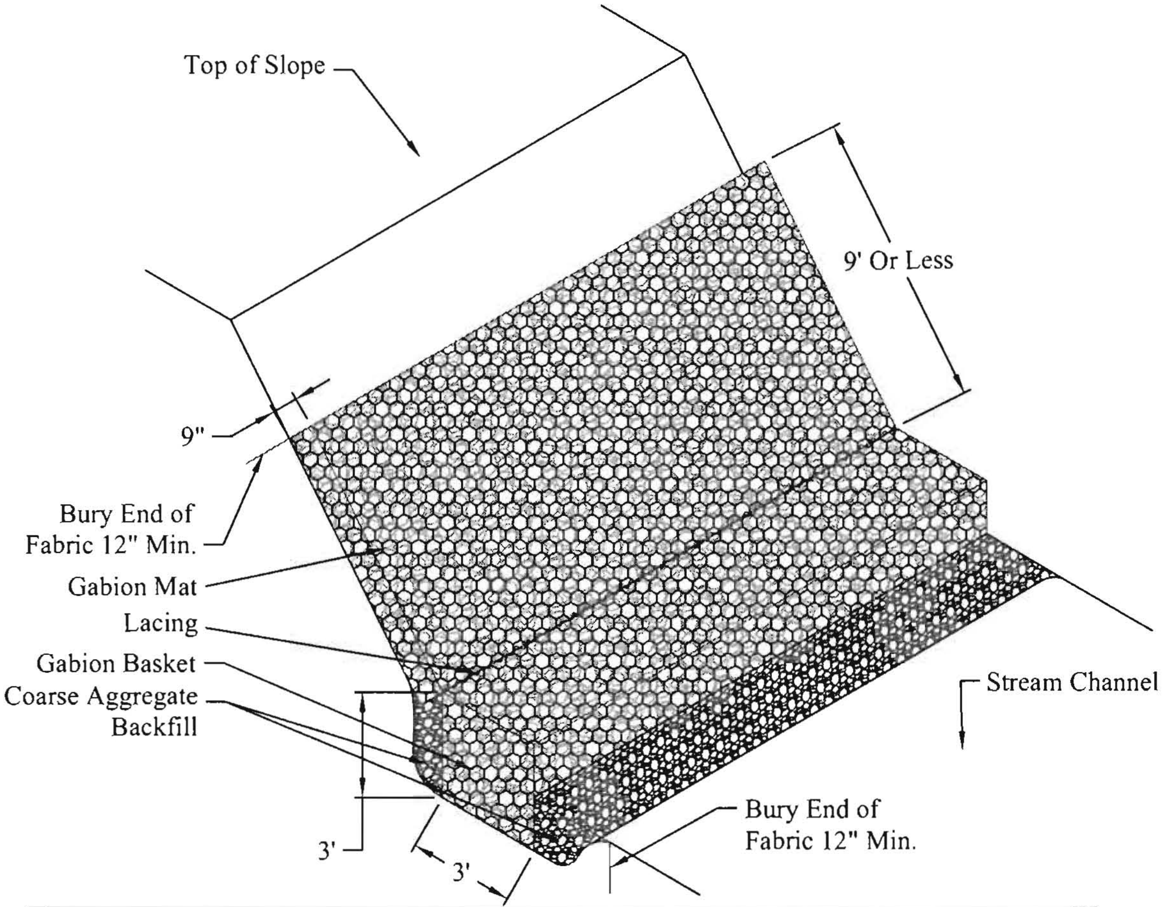
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

3. Geotextile Class C or better shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile fabric over the damaged part or by completely replacing the geotextile fabric. All overlaps whether for repairs or for joining two pieces of geotextile fabric shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile fabric. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

Gabion Inflow Protection



Definition

A temporary or permanent, lined drainage way installed to convey concentrated runoff into sediment traps and basins or down steep slopes as applicable. Rip-rap inflow protection consists of the installation of rock or recycled concrete equivalent in a flow channel for stabilization.

Purpose

The purpose of rip-rap inflow protection is to provide stable conveyance of concentrated runoff down steep slopes, (I.e. into temporary sediment traps and basins) thereby preventing erosion of the flow channel.

Conditions Where Practice Applies

Rip-rap inflow protection is required where the flow velocities of a drainage waycause erosion along the bottom or sides of the drainage way. Runoff may be directed to the inflow device by means of dikes or swales.

Design Criteria

Rip-rap inflow protection shall be 4"-12" rip-rap (minimum), underlain with Geotextile Class "C" (See Material Specifications, Geotextile Fabrics) and placed from the the ditch overfall elevation to the bottom of the trap or basin when the inflow slope is between 4:1 and 10:1. Slopes flatter than 10:1 shall be stabiliezed in accordance with Temporary Swale or Earth Dike criteria as applicable. For slopes steeper than 4:1, see Gabion Inflow Protection.

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ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

STRUCTURAL STREAMBANK STABILZATION -- GABIONS

Notes

1. The filter fabric shall meet the requirements in material specification 592 GEOTEXTILE Table 1 or 2, Class I, II or III.

2. The coarse aggregate backfill shall meet the requirements for the following gradations: ASTM C33 Coarse Aggregate Size 1, 2, 3 or 357, or similar.

3. The Gabions shall be installed according to construction specification 64 WIRE MESH GABIONS.

4. The gabion mat will be placed on a side slope of 2:1 or flatter.

MATERIALS SPECIFICATIONS

Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MIN. / MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40 – 0.80*	90	190

* us STD Sieve CW-02215

The properties shall be determined in accordance with the following g procedures:

-Apparent opening size	MSMT 323
-Grab tensile strength	ASTM D 1682: 4x8" specimen, 1x2" clamps, 12"/min. strain rate in both principal directions of geotextile fabric.
-Burst strength	ASTM D 3786

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polyolephins, polyesters, or polyamindes. The geotextile fabrics shall resist deterioration from ultraviolet exposure.

In addition, Classes A through E shall have a 0.01 cm./sec. Minimum permeability when tested in accordance with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

Silt Fence

Class F geotextile fabrics for silt fence shall have a 50 lb./in. minimum tensile strength and a 20 lb./in. minimum tensile modules when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./ft.^{2}/min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance with MSMT 322.

Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposure. The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

STONE SIZE

	SIZE RANGE	D_{50}	D_{100}	AASHTO	WEIGHT
NUMBER 57*	3/8" – 1 1/2"	1/2"	1 1/2"	M-43	N/A
NUMBER 1	2" – 3"	2 1/2"	3"	M-43	N/A
RIP-RAP**	4" – 7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150 lb. max
CLASS II	N/A	16"	24"	N/A	700 lb max
CLASS III	N/A	23"	34"	N/A	2,000 lb max

* This classification is to be used on the inside face of stone outlets and check dams.

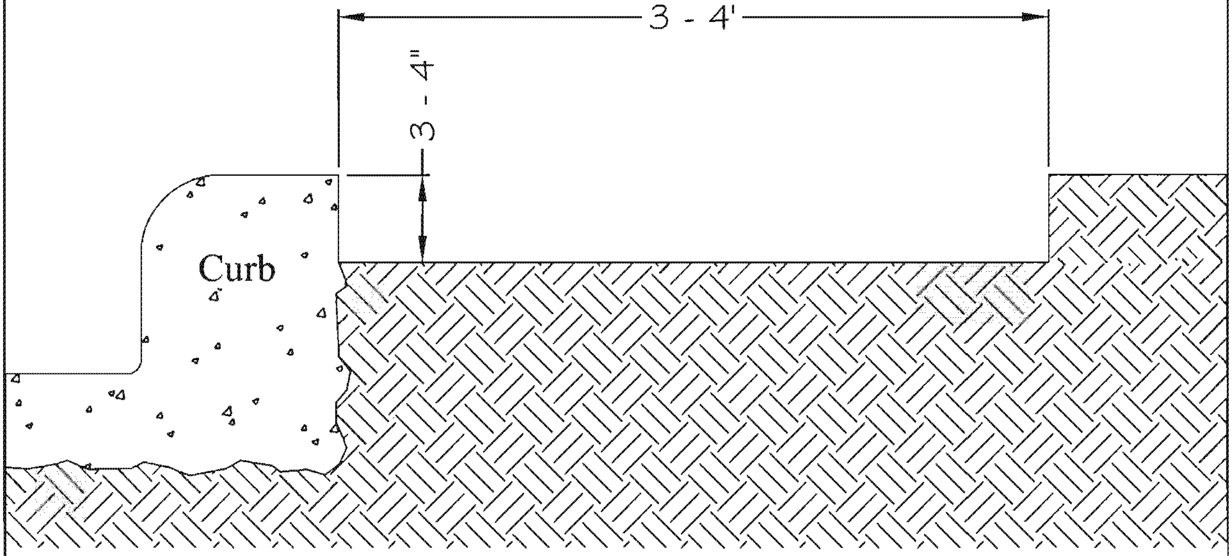
** This classification is to be used whenever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (§905.01.04).

STONE FOR GABION BASKETS

BASKET THICKNESS		SIZE OF INDIVIDUAL STONES	
INCHES	MM	INCHES	MM
6	150	3 – 5	75 – 125
9	225	4 – 7	100 – 175
12	300	4 – 7	100 – 175
18	460	4 – 7	100 – 175
36	910	4 – 12	100 - 300

NOTE: Recycled concrete equivalent may be substituted for all stone classifications. Recycled concrete equivalent shall be concrete broken into the sizes meeting the appropriate classification, shall contain no steel reinforcement, and shall have a density of 150 pounds per cubic foot.

Cut Back Curb



Definition

A temporary sediment trap formed by excavation behind the curb.

Purpose

The purpose is to intercept sediment laden runoff from the lot during construction and retain sediment on the lot.

Conditions where the Practice Applies

A cutback curb is installed when discharge from the lot runs over the curb.

Design Criteria

1. Cut back soil from behind curb 3 - 4" deep to form a temporary sediment trap.
2. Installing the sidewalk will form a two stage sediment trap that will be more effective.

PARADIGM
ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

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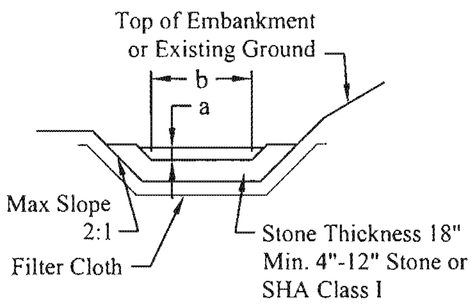
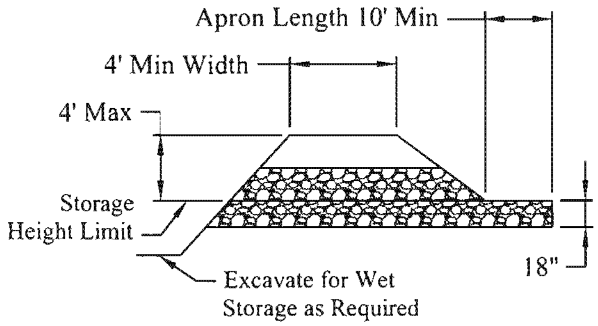
Sediment Trap



Top of Compacted Embankment Minimum 1' Above Top of Stone Lining. Maximum 4' Above Existing Ground. Bottom Width of Weir (b) Minimum Depth of Channel (a)

Cross Section



Filter Cloth Shall be Embedded at Least 6" Into the Existing Ground at Entrance to the Outlet Channel

Profile

Definition

A temporary sediment control device formed by excavated and/or an embankment with an approved outlet used to intercept sediment laden runoff and to retain the sediment.

Purpose

The purpose of a sediment trap is to intercept sediment laden runoff and trap the sediment in order to protect drainage ways, properties, and rights-of-way downstream, of the sediment trap from sedimentation.

Conditions where the Practice Applies

A sediment trap is installed at points of discharge from a disturbed area.

Wet and Dry Storage

The storage requirement for sediment traps and sediment basins is 3600 cubic feet per acre of contributory drainage area. The sediment traps and basins storage volume of 3600 cubic feet minimum per acre shall be divided equally into "dry" or dewatered storage and "wet" or retention storage. The basins and traps will be dewatered to the wet pool elevation corresponding to 1800 cubic feet of storage per acre of drainage.

Design Criteria

1. The maximum drainage area for each type sediment trap shall be as follows:

Practice Type	Maximum Drainage Area
Pipe Outlet	5 Acres
Stone Outlet	5 Acres
Rip-rap Outlet	10 Acres
Stone Outlet / Rip-rap	10 Acres

2. To estimate the present volume of sediment available in a trap use the following:

Volume (Cubic Feet) = 0.4 [Surface Area (sq. ft.) times the Maximum Depth (ft.)]

3. **All embankment for sediment traps shall not exceed 4 feet in height as measured at the low point of the original ground along centerline of the embankment. If any of the design criteria for traps are exceeded, standards for basins must be used.**

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ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

RIP-RAP OUTLET SEDIMENT TRAP

Construction Specifications

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation.

6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. Stone used in the outlet channel shall be 4" – 7" placed 18" thick.

8. Outlet – An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge end shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

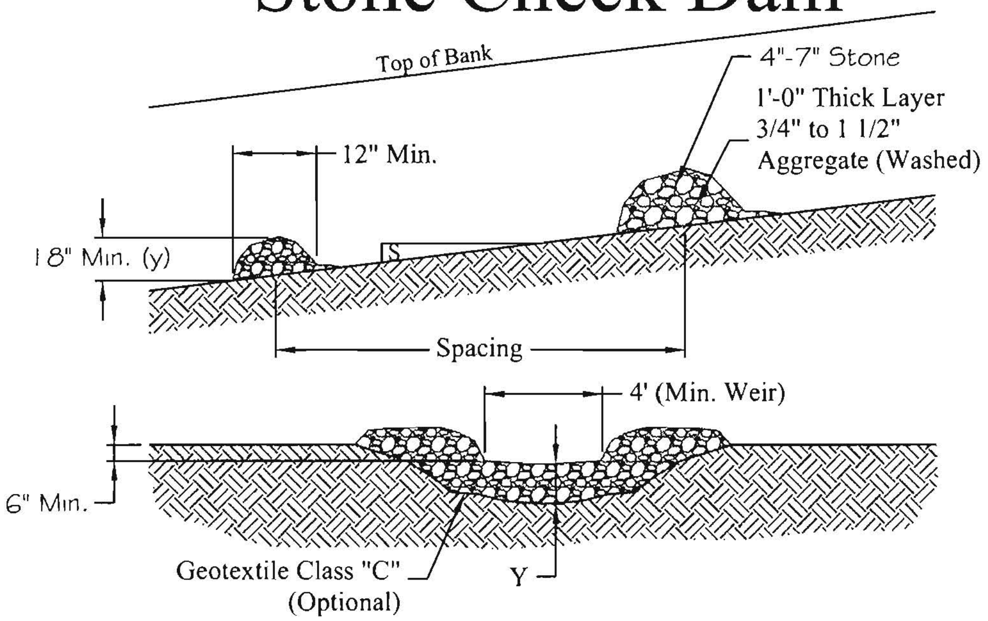
10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ¼ of the wet storage depth of the trap (1350 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired as needed.

12. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

Stone Check Dam



Definition

Stone check dams are stone weirs in series in swales and ditches.

Purpose

Stone check dams are constructed to reduce runoff velocities to non-erosive rates and to prevent channel erosion in drainage courses.

Design Criteria

1. Stone check dams shall be located so as to provide maximum velocity reduction. This may be acheived by considering the volume of runoff, the drainage area and the slope. The check dams should be placed in reasonably straight ditch sections to minimize the potential for erosion in the channel bend. All stone check dams should be keyed into the sides and bottom of the channel. **This is not to be used as a sediment trapping device. Sediment laden runoff must pass through a sediment trapping device prior to being discharged from the site.**

2. The distance between the stone check dams will vary with the longitudinal ditch slope. Stone check dams shall be constructed using 4"-7" stone (See Materials Specifications, Stone Size), or recycled concrete equivalent and shall be placed to form a weir. The outlet crest or top of the stone weir shall be approximately 6 feet lower than the outer edges. The inside or upstream side of the weir shall be lined with a 1 foot thick layer of washed (3/4" to 1 1/2") crushed aggregate. Geotextile Class "E" (See Materials Specifications, Geotextiles) or better under the bottom and sides of the dam prior to placement of stone is optional.

3. The height of the stone outlet weir should not exceed 1/2 the ditch or swale. Additionally, the maximum height of the weir must not exceed 2 feet to prevent scour of the toe of the dam. If the check dam exceeds this, these provisions do not apply and an engineering analysis should be conducted. The stone check dam should be wide enough to reach from bank to bank of the ditch or swale with the weir section length in the center of the dam.

4. The number of check dams will depend on the length and slope of the ditch or swale. The required spacing is determined as:

$x=y/S$ where
x = Check dam spacing in Feet
y = Check dam height in Feet
S = Natural Channel Slope Ft./Ft.
The spacing is most sensitive to channel slope and height of dam.

PARADIGM
ENGINEERING, Ltd.
1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

STONE CHECK DAM

Construction Specifications

1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A-2. Standards and Specifications for Temporary Swale.

2. The check dam shall be constructed of 4"-7" stone. The stone shall be placed so that it completely covers the width of the channel and is key into the channel banks.

3. The top of the check dam shall be constructed so the center is approximately 6" lower than the outer edges, forming a weir that water can flow across.

4. The maximum height of the check dam at the center shall not exceed 2'.

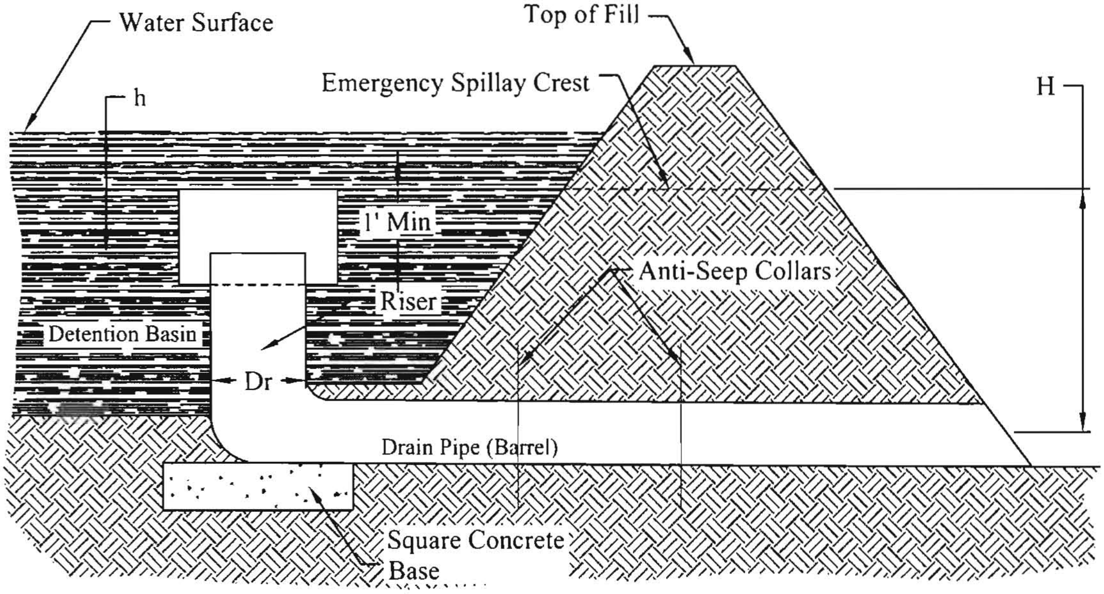
5. The upstream side of the check dam shall be lined with approximately 1' of 0.75" to 1.5" aggregate.

6. Accumulated sediment shall be removed when it has built up to half of the original height of the weir crest.

Standard Stone Check Dam Design

Slope	Spacing
2% or less	80'
2.1% to 4%	40'
4.1% to 7%	25'
7.1% to 10%	15'
Over 10%	Used lined waterway design

Sediment Basin with Riser



Definition

A temporary barrier or dam constructed across a drainage way to intercept sediment laden runoff. Excavation to build may be used to achieve the required storage.

Purpose

The purpose of a sediment basin is to protect downstream properties and drainage ways by trapping sediment and controlling the release of storm water runoff.

Wet and Dry Storage

The minimum storage volume requirement for sediment basins in 3600 cubic feet per acre of contributory drainage area. The basin storage volume of 3600 cubic feet per acre shall be divided equally into "dry" or dewatered storage and "wet" or retention storage. Basins shall be dewatered to the wet pool elevation corresponding to 1800 cubic feet of storage per acre of drainage area.

Conditions where the Practice Applies

A sediment basin is required to control runoff and sediment from large areas where sediment traps are not appropriate. Detention ponds may be used as sediment basins provided that they meet the requirements of and the construction sequence addresses converting the sediment basin to a permanent storm water detention pond.

Conditions of Use

This standard applies to the installation of temporary sediment basins on sites where: (A.) failure of the structure would not result in the loss of life, damage to homes or buildings, or interruption of use or service of public roads or utilities; (B.) the drainage area does not exceed 100 acres; (C.) the maximum embankment height does not exceed 15 feet measured from the natural ground to the embankment top along the centerline of the embankment; (D.) the basin is to be removed within 36 months after the beginning of construction of the basin. Where these criteria cannot be met, the structure shall be designed to conform with the U.S.D.A., Natural Resource Conservation Service, formerly Soil Conservation Service standard for farm ponds (378).

Design Criteria

Design and construction shall comply with the state and local safety laws, ordinances, rules, and regulations. Contact Paradigm Engineering for detailed design assistance.

PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

SEDIMENT BASIN WITH RISER

Construction Specifications

1. Site Preparation: Perimeter sediment control devices must be installed prior to clearing and grubbing. Areas where the embankment is to be placed shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots or other objectionable material. The pool area shall not be cleared until completion of the dam embankment unless the pool area is to be used for borrow. In order to facilitate clean-out and restoration, the pool area (measured at the top of the pipe spillway) shall be cleared of all brush, trees, and other objectionable materials.

2. Cut-off Trench: A cut-off trench shall be excavated along the centerline of earth fill embankments. The minimum depth shall be four feet. The cut-off trench shall extend up both abutments to the riser crest elevation. The minimum bottom width shall be two feet, but wide enough to permit operation of excavation and compaction equipment. The side slopes shall be no steeper than 1:1. Compaction requirements shall be the same as those for the embankment. The trench shall be dewatered during the backfilling-compaction operations.

3. Embankment: The fill material shall be taken from approved areas shown on the plans. It shall be clean mineral soil free of roots, woody vegetation, oversized stones, rocks, or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW & SP) or organic materials (Unified Soil Classes OL and OH) shall not be placed in the embankment. Areas on which fill is to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed in six-inch to eight-inch thick continuous lifts over the entire length of the fill. Compaction shall be obtained by routing and hauling the construction equipment over the fill so that the entire surface of each layer of the fill is traversed by at least one wheel or tread track of the equipment or by the use of a compactor. **The embankment shall be constructed to an elevation 10 percent higher than the design height to allow for settlement.**

4. Principal Spillway: Steel risers shall be securely attached to the barrel or barrel stub by welding the full circumference making a watertight structural connection. Concrete risers shall be poured with the principal spillway in place or precast with voids around the principal spillway filled with concrete or shrink proof grout for watertight connection. The barrel stub must be attached to the riser at the same percent (angle) of grade as the outlet conduit. The connection between the riser and the riser base shall be watertight. All connections between barrel sections must be achieved by approved watertight band assemblies. The barrel and riser shall be placed on a firm, smooth foundation of impervious soil as the embankment is constructed. **Breaching the embankment to install the barrel is unacceptable.** Pervious materials such as sand, gravel or crushed stone shall not be used as backfill around the pipe or anti-seep collars. The fill material around the pipe spillway shall be placed in four inch lifts and hand compacted under and around the pipe to at least the same density as the adjacent embankment. A depth of 1.5 times the pipe diameter (min.) shall be backfilled over the principal spillway and hand compacted before crossing it with construction equipment.

5. Emergency Spillway: **The emergency spillway shall be installed in undisturbed ground.** The achievement of planned elevations, grades, design width, entrance and exit channel slopes are critical to the successful operation of the emergency spillway and must be constructed within a tolerance of ± 0.2 feet.

6. Vegetative Treatment: Stabilize the embankment in accordance with the appropriate vegetative Standard and Specifications immediately following construction. In no case shall the embankment remain unstabilized for more than seven (7) days. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon basin completion and monitored and maintained erosion free during the life of the basin.

7. **Safety: Local requirement concerning fencing and signs shall be met, warning the public of hazards of soft sediment and floodwater.**

8. Maintenance: Repair all damage caused by soil erosion and construction equipment at or before the end of each working day. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser as shown on the riser. This sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the embankment, adjacent to a stream or floodplain. Disposal areas must be stabilized.

9. Final Disposal: When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits are to be leveled or otherwise disposed of in accordance with the approved sediment control plan. The proposed use of a sediment basin site will often dictate final disposition of the basin and any sediment contained therein. If the site is scheduled for future construction, then the basin material and trapped sediments must be removed and safely disposed of and the basin shall be backfilled with a structural fill. When the basin area is to remain open space, the pond may be pumped dry (using Dewatering methods), graded, and back filled.

10. Conversion to Stormwater Management Structure: After permanent stabilization of all disturbed contributory drainage areas, temporary sediment basins, if initially built and certified to meet permanent standards, may be converted to permanent stormwater management structures. To convert the basin from temporary to permanent use, the outlet structure must be modified in accordance with approved stormwater management design plans. Additional grading may also be necessary to provide the required storage volume in the basin. **Conversion can only take place after all disturbed areas have been permanently stabilized to the satisfaction of the inspection authority and storm drains have been flushed.**

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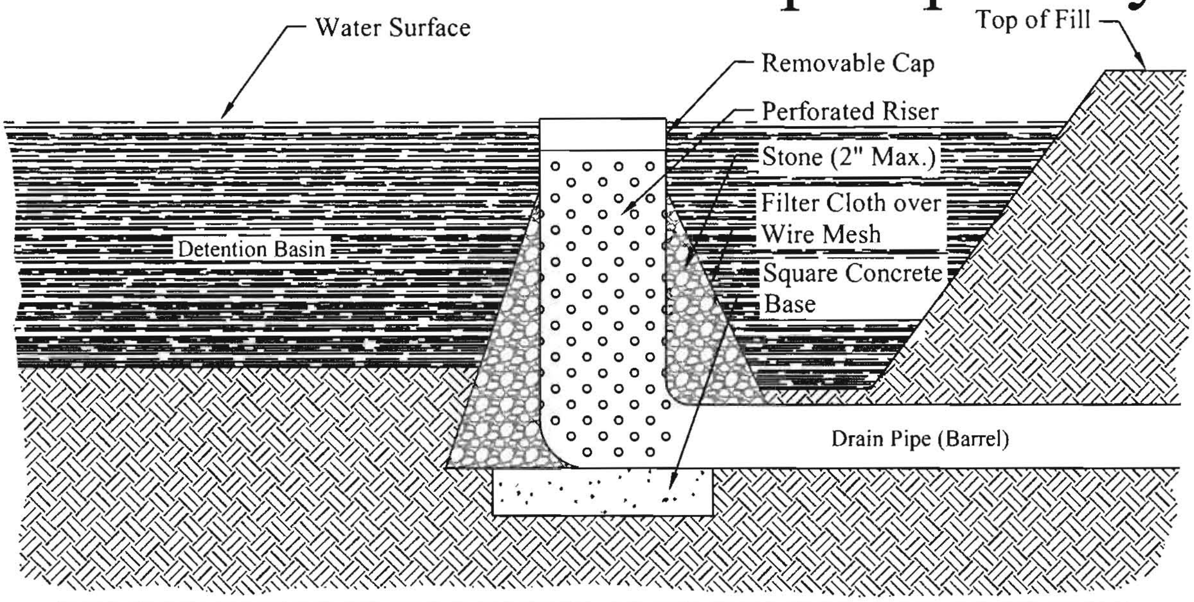
Sediment Basin with Pipe Spillway



Definition

A temporary barrier or dam constructed across a drainage way to intercept sediment laden runoff. Excavation to build may be used to achieve the required storage.

Purpose

The purpose of a sediment basin is to protect downstream properties and drainage ways by trapping sediment and controlling the release of storm water runoff.

Wet and Dry Storage

The minimum storage volume requirement for sediment basins in 3600 cubic feet per acre of contributory drainage area. The basin storage volume of 3600 cubic feet per acre shall be divided equally into "dry" or dewatered storage and "wet" or retention storage. Basins shall be dewatered to the wet pool elevation corresponding to 1800 cubic feet of storage per acre of drainage area.

Conditions where the Practice Applies

A sediment basin is required to control runoff and sediment from large areas where sediment traps are not appropriate. Detention ponds may be used as sediment basins provided that they meet the requirements of and the construction sequence addresses converting the sediment basin to a permanent storm water detention pond.

Conditions of Use

This standard applies to the installation of temporary sediment basins on sites where: (A.) failure of the structure would not result in the loss of life, damage to homes or buildings, or interruption of use or service of public roads or utilities; (B.) the drainage area does not exceed 100 acres; (C.) the maximum embankment height does not exceed 15 feet measured from the natural ground to the embankment top along the centerline of the embankment; (D.) the basin is to be removed within 36 months after the beginning of construction of the basin. Where these criteria cannot be met, the structure shall be designed to conform with the U.S.D.A., Natural Resource Conservation Service, formerly Soil Conservation Service standard for farm ponds (378).

Design Criteria

Design and construction shall comply with the state and local safety laws, ordinances, rules, and regulations. Contact Paradigm Engineering for detailed design assistance.

PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

SEDIMENT BASIN WITH PIPE SPILLWAY

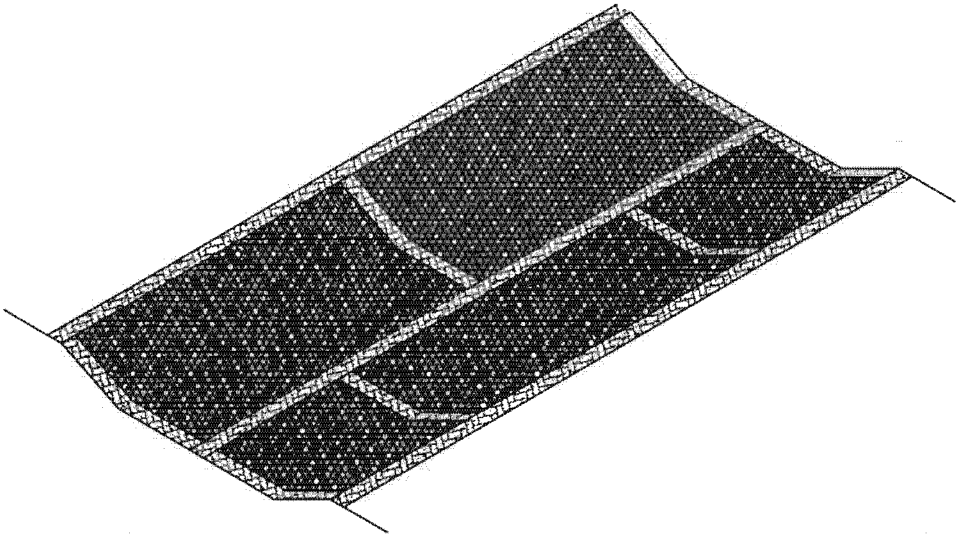
Construction Specifications

1. The total area of the perforations must be greater than 2 times the area of the internal orifice.

2. The perforated portion of the draw-down devise shall be wrapped with 0.5" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.

3. Provide support of draw-down device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of draw-down device with 1" steel angle, or 1' by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

Erosion Control Blanket



Definition

Application of a protective layer of straw, other plant residues, stone, or synthetic materials to the soil surface.

Purpose

To protect the soil surface from the forces of raindrop impact and overland flow. Blankets foster the growth of vegetation, reduces evaporation, insulates the soil, and suppresses weed growth. They are frequently used to accent landscape plantings.

Conditions where the Practice Applies

Mulch temporary or permanent seedings immediately after planting. Mulch around plantings of trees, shrubs, or ground covers to stabilize the soild between plants. Areas that cannot be seeded because of the season should be mulched to provide temporary protection of the soil surface. Use an organic mulch in this case that can be incorporated into the soil during seedbed preparation.

Design Criteria

1. A surface mulch is the most effective, practical means of controlling runoff and erosion on disturbed land prior to vegetation establishment. Mulch reduces soil moisture loss by evaporation, prevents crusting, and sealing of the soil surface, moderates soil temperatures, provides a suitable microclimate for seed germination, and may increase the infiltration rate of the soil.
2. Organic mulches such as straw, wood chips, and shredded bark have been found to be the most effective mulch materials. Materials containing weed and grass seeds which may compete with establishing vegetation should not be used. Also, decomposition of some wood products can tie up significant amounts of soil nitrogen, making it necessary to modify fertilization rates or add fertilizer with the mulch.
3. A variety of erosion control blankets have been developed in recent years for use as mulch, particularly in critical areas such as waterways and channels. Various types of netting materials are also available to anchor organic mulches.
4. Chemical soil stabilizers or soil binders, when used alone, are less effective than other types of mulches. These products are primarily useful for tacking wood fiber or straw mulches.
5. The choice of materials for mulching should be based on soil conditions, season, type of vegetation, and size of the area. A properly applied and tacked mulch is always beneficial. It is especially important when conditions of germination are not optimum, such as midsummer and early winter, and on difficult sites such as cut slopes and drought soils.

PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

EROSION CONTROL BLANKET

Construction Specifications

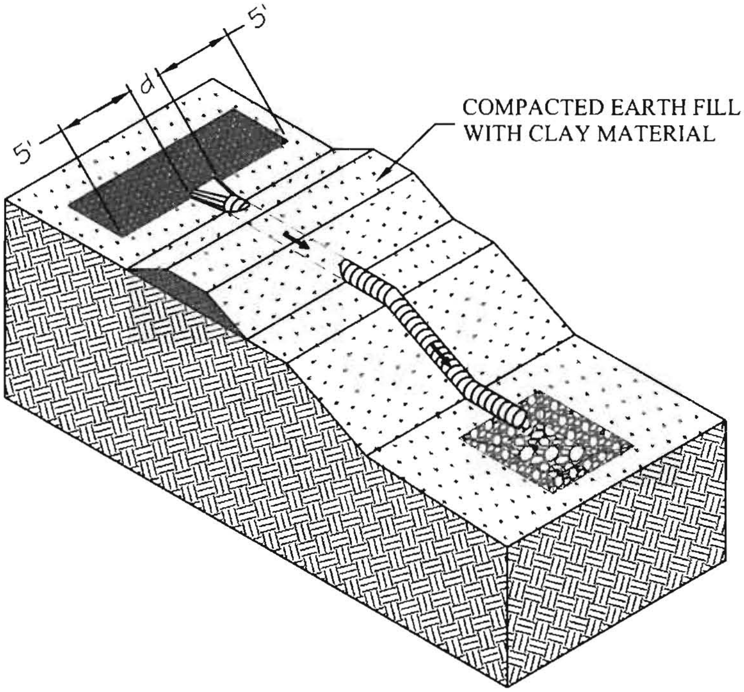
1. All smoothing seedbed preparation, and vegetation operations must be completed prior to placing the erosion control blanket. Any rocks, clods, sticks, or other debris, which would prevent the blanket from making close contact with the soil, should be removed. The erosion control blanket should be placed immediately after planting seed.

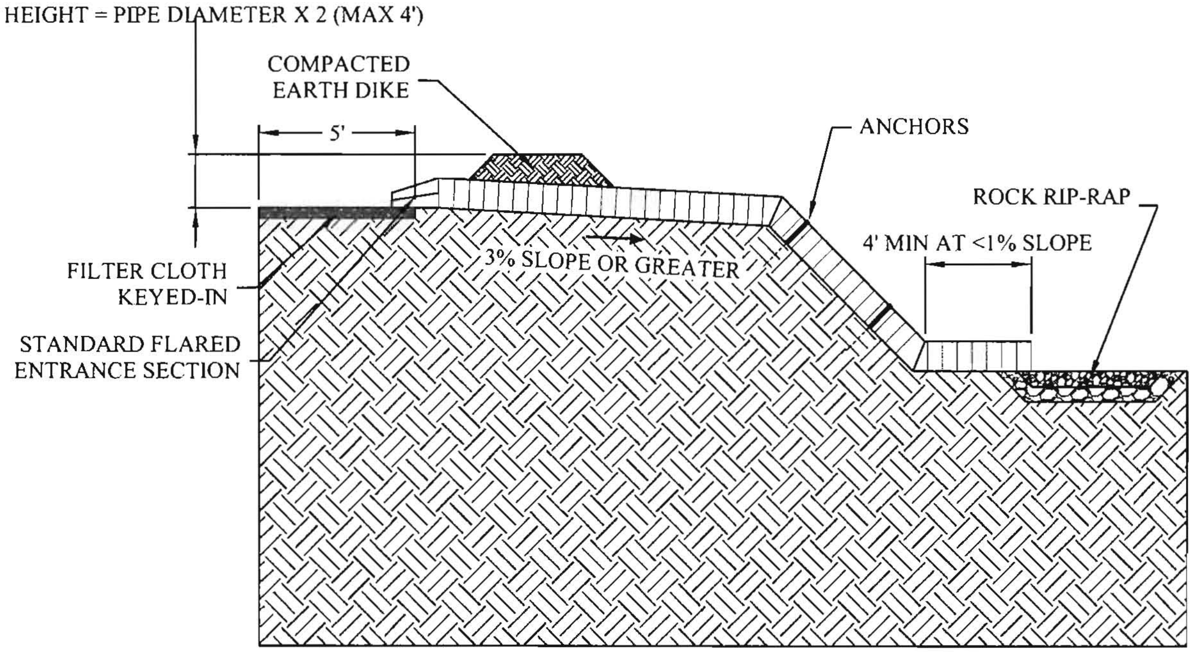
2. Unroll the erosion control blanket from the top down, parallel to the direction of flow, in flumes and ditches and perpendicular to the direction of flow on slopes. Allow the blankets to lie loosely on the soil but without wrinkles-do not stretch.

3. To secure the blanket, bury the upslope end in a slot or trench no less than 6" deep, cover with soil, and tamp firmly. Staple the blanket every 12" across the top end and every 3' around the edges of the bottom. Where erosion control blankets are laid side to side, the adjacent edges should be overlapped with the uphill blanket on top and stapled together. Each blanket should also be stapled down the center, every 3'. Do not stretch the erosion control blanket when applying staples.

Material	Rate Per Acre	Notes
Straw	1 ½- 2 tons	Spread by hand machine; tack down when subject to blowing
Woodchips	5-6 tons	Treat with 12 lbs nitrogen/ton
Bark blower	35 cubic yards	Can apply with mulch
Pine Straw	1-2 tons	Spread by hand or machine; will not blow like straw
Peanut Hulls	10-20 tons	Will wash off slopes. Treat with 12 lbs nitrogen/ton

Pipe Slope Drain





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Toll Free (888) 243-3605
Fax (972) 829-8101
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STANDARDS AND SPECIFICATIONS
FOR
PIPE SLOPE DRAIN (PSD)

Description of Practice

A pipe slope drain is a pipe that is installed to convey surface runoff down the face of unstabilized slopes. It is used to minimize erosion on the slope face. **Use of flexible piping is preferred.**

Conditions Where Practice Applies

Pipe slope drains are used in conjunction with earth dikes. The dikes direct surface runoff to the slope drain, which conveys concentrated flow down the face of a slope. When used to convey water down an unstabilized fill slope on a road construction project, the drainage area to the pipe slope drain will be limited to two (2) acres. When used as an inflow protection device, the drainage area will be five (5) acres.

Design Criteria for Pipe Slope Drain

Size	Diameter (inches)	Pipe/Tubing Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-(2) (24)[1]	24	5.0

Inlet

At the inlet of the pipe slope drain, the height of the earth dike shall be at least two times the pipe diameter and measured from the invert of the pipe. A standard flared entrance section shall be installed and secured at the inlet to the pipe slope drain with a watertight connection. To prevent erosion, geotextile fabric shall be placed under the inlet and shall extend 5' in front of the inlet and be keyed in 6" on all sides.

Outlet

When the drainage area is disturbed, the pipe slope drain shall outlet into a sediment trap or basin, or a stable conveyance that leads to a trap or basin. The point of discharge shall be as far away from the trap or basin outlet structure as possible. When the drainage area is stabilized, the pipe slope drain shall outlet onto a stabilized area at a non-erosive velocity. The point of discharge may be protected by rock outlet protection.

---

[1] Due to the height limitations on earth dikes, the maximum pipe diameter for pipe slope drain is 24". For drainage areas over 3-1/2 acres, two (2) 24" pipes shall be used. A minimum spacing of 2D (4 feet) is required between pipes.

Construction Specifications

1. The Pipe Slope Drain (PSD) shall have a slope of 3 percent or steeper.

2. The top of the earth dike over the inlet pipe shall be at least 2 times the pipe diameter measured at the invert of the pipe.

3. Flexible tubing is preferred. However, corrugated metal pipe or equivalent PVC pipe can be used. All connections shall be watertight.

4. A flared end section shall be attached to the inlet end of a pipe with a watertight connection. Geotextile Class E^2 or better shall be placed under the inlet of the pipe slope drain and shall extend out 5' from the inlet. The geotextile fabric shall be keyed in on all sides.

5. The Pipe Slope Drain shall be securely anchored to the slope. Spacing for anchors shall be as provided by manufacturer's specification. In no case shall less than two (2) anchors be provided, equally spaced along the length of the pipe. These details should be provided by pipe suppliers.

6. The soil around and under the pipe and end sections shall be hand tamped in 4-inch lifts to the top of the earth dike.

7. Whenever possible where a PSD drains an unstabilized area, it shall outlet into a sediment trap or basin. If this is not possible, then the slope drain will discharge into a stable conveyance that leads to a sediment trap or basin. When discharging into a trap or basin, the PSD shall discharge at the same elevation as the wet pool elevation. The discharge from the PSD must be as far away from the sediment control outlet as possible.

8. When the drainage area is stabilized, the PSD shall discharge onto a stabilized area at a non-erosive velocity. 4"-7" stone underlain with Geotextile Class C^3 shall be employed as necessary.

9. Inspection and any required maintenance shall be performed periodically and after each rain event.

10. The inlet must be kept open at all times.

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DISTURBED AREA STABILIZATION

(With Temporary Seedings)

Definition

Establishing temporary vegetative cover with fast growing seedings on disturbed or denuded areas.

Purpose

- To reduce erosion, sediment and runoff damages to downstream resources.
- To improve wildlife habitat.
- To improve aesthetics.
- To improve safety and public road rights-of-way.
- To improve tilth and add organic matter for permanent plantings.

Conditions

This practice is applicable on areas subject to erosion for up to twelve months or until establishment of finished grade or permanent vegetative cover. Temporary vegetative measures should be coordinated with permanent measures to assure economical and effective stabilization.

Specifications

A. Grading and Shaping

Excessive stormwater must be controlled by planned and installed erosion control practices such as closed drains, ditches, dikes, diversions, sediment basins and others.

1. No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used.

B. Seedbed Preparation

1. When a hydraulic seeder is used, seedbed preparation is not required.

2. When using conventional or hand-seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.

3. When soil has been sealed by rainfall or consists of smooth undisturbed cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

C. Lime and Fertilizer

1. Agricultural lime is not required.

2. On reasonably fertile soils or soil material, fertilizer is not required.

3. On soils of very low fertility, use 500 to 700 pounds of 10-10-10 fertilizer or the equivalent per acre (12-16 lbs./1,000 sq. ft.). If the site will permit, apply before land preparation and disk, rip or chisel to incorporate.

D. Seeding

1. Select a grass or grass-legume mixture suitable to the area and season of the year.
2. Apply seed uniformly by hand, cyclone seeder, drill, cultipacker-seeder, or hydraulic seeder (slurry including seed and fertilizer). Drill or cultipacker seeders should normally place seed one-half to one inch deep.

E. Mulching

Temporary vegetation can, in most cases, be established without the use of mulch. Mulch without seeding should be considered for short term protection. See Disturbed Area Stabilization (With Mulching Only).

F. Irrigation

If water is applied, it must be at a rate not causing runoff and erosion. Thoroughly wet the soil to a depth that will insure germination of the seed. Subsequent applications should be made when needed.

DISTURBED AREA STABILIZATION

(With Permanent Vegetation)

Definition

Planting vegetation, such as trees, shrubs, vines, grasses, or legumes, on highly erodible or critically eroding areas (does not include tree planting mainly for wood products).

Purpose

To stabilize the soil, reduce damage from sediment and runoff to downstream areas, and improve wildlife habitat and visual resources.

Conditions

On highly erodible or critically eroding areas. These areas usually cannot be stabilized by ordinary conservation treatment and management and if left untreated can cause severe erosion or sediment damage. Examples of applicable areas are dams, dikes, levees, cuts, fills, and denuded or gullied areas where vegetation is difficult to establish by usual planting methods.

Planning Considerations

1. Use conventional planting methods where possible.

2. Companion crops aid in getting permanent cover established, especially when mixed plantings are done during marginal planting periods.

3. No-till planting is effective when planting is done following a summer or winter annual cover crop. Sericea lespedeza planted no-till into stands of rye is an excellent procedure.

4. Bloc sod is effective in controlling erosion adjacent to concrete flumes and other structures.

5. Consider using irrigation, especially when late plantings are done.

6. Use low maintenance plants in most cases to ensure long-lasting erosion control.

7. Mowing should not be performed during the quail nesting season (September to April).

8. Wildlife plantings should be included in critical area plantings.

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PERMANENT SEEDING – (PS)

Definition

Controlling runoff and erosion on disturbed areas by establishing perennial vegetative cover with seed.

Purpose

To reduce erosion and decrease sediment yield from disturbed areas, and to permanently stabilize such areas in a manner that is economical, adapts to site conditions, and allows selection of the most appropriate plant materials.

Conditions Where Practice Applies

Disturbed areas where permanent, long-lived vegetative cover is needed or the most effective method of stabilizing the soil. Permanent seeding may also be used on rough-graded areas that will not be brought to final grade for a year or more.

Planning Considerations

1. The most common and economical means of stabilizing disturbed soils is by seeding grasses and legumes. The advantages of seeding over other means of establishing plants include the smaller initial cost, lower labor input, and greater flexibility of method. Disadvantages of seeding include potential for erosion during the establishment stage. Seasonal limitations on suitable seeding dates, and weather related problems such as droughts, etc.

2. The probability of successful plant establishment can be maximized through good planning. The selection of plants for permanent vegetation must be site specific. Factors that should be considered are type of soils, climate, establishment rate, and management requirements of the vegetation. Other factors that may be important are wear, mowing tolerance, and salt tolerance of vegetation.

3. The use of irrigation (temporary or permanent) will greatly improve the success of vegetation establishment.

4. Endophyte infected tall fescue appears to establish quicker and have better survival under adverse conditions than endophyte free tall fescue.

5. The operation of equipment is restricted on slopes steeper than 3:1, severely limiting the quality of the seedbed that can be prepared. Provisions for establishment of vegetation on steep slopes can be made during final grading. In construction of fill slopes, for example, the last 4-6 inches might not be compacted. A loose, rough seedbed with irregularities that hold seeds and fertilizer is essential for hydroseeding. Cut slopes should be roughened.

6. Good mulching practices are critical to protect against erosion on steep slopes. When using straw, anchor with netting or asphalt. On slopes steeper than 2:1, jute, excelsior, or synthetic matting may be required to protect the slope.

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SODDING (SD)

Definition

Permanently stabilizing areas by laying a continuous cover of grass sod.

Purpose

To prevent erosion and damage from sediment and runoff by stabilizing the soil surface with permanent vegetation; to provide immediate vegetative cover of critical areas; to stabilize disturbed areas with a suitable plant material that cannot be established by seed; and to stabilize drainage ways and channels and other areas of concentrated flow where flow velocities will not exceed that specified for a vegetated waterway.

Conditions Where Practice Applies

Disturbed areas which require immediate and permanent vegetative cover, or where sodding is preferred to other means of grass establishment such as waterways or sod flumes carrying intermittent flow at acceptable velocities, areas around drop inlets, residential or commercial lawns and golf courses where prompt use and aesthetics are important, and steep critical areas needing immediate cover.

Planning Considerations

1. Advantages of properly installed sod include immediate erosion control, nearly year-round establishment capability, less chance of failure than with seeding, and rapid stabilization of surfaces for traffic areas, channel linings, or critical areas.

2. Initially it is more costly to install sod than to plant seed; however, the higher cost may be justified for specific situations where sod performs better than seed.

3. Sodding for soil stabilization eliminates the seeding and mulching operations, but site preparation is required. Sodding is a more reliable method of producing adequate cover and erosion control than seeding.

4. Sod can be laid during the times of the year when seeded grasses may fail, provided there is adequate water available for irrigation in the early establishment period. Irrigation is essential, at all times of the year, to install sod.

5. In waterways and sod flumes that carry concentrated flow, properly pegged sod provides immediate protection and is preferable to seeding.

6. Sod placed around drop inlets can protect them from sediment and help maintain the necessary grade around the inlet.

7. The site should be prepared and ready for laying of sod when it is delivered. Leaving sod stacked or rolled can cause severe damage and loss of plant material.

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DUST CONTROL

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

Temporary Methods

1. Mulches – See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.

2. Vegetative Cover – See standards for temporary vegetative cover.

3. Tillage – To roughen surface and bring clods to the surface. This is an emergency measure, which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12" apart, spring-toothed harrows, and similar plows are examples of equipment, which may produce the desired effect.

4. Irrigation – This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.

5. Barriers – Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soils blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.

6. Calcium Chloride – Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods

1. Permanent Vegetation – See standards for permanent vegetative cover and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.

2. Topsoiling – Covering with less erosive soil materials. See standards for topsoiling.

3. Stone – Cover surface with crushed stone or coarse gravel.

References

1. Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.

2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

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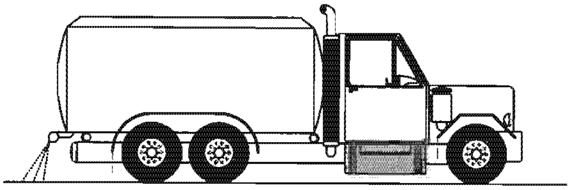
Wind Erosion Control



Definition

A Best Management Practice to prevent or alleviate dust nuisance generated by construction activities.

Conditions where the Practice Applies

Wind Erosion BMP's are suitable during the following construction activities:

- Construction Vehicle traffic on unpaved roads
- Sediment tracking onto paved roads
- Batch drop from front-end loaders
- Final grading/site stabilization
- Drilling and blasting activities
- Soils and debris storage piles
- Areas with unstabilized soil

Design Criteria

- Water prevents dust only for a short period and should be applied daily (or more often) to be effective.
- Over watering may cause erosion
- Oil or oil-treated subgrade should not be used for dust control because the oil may migrate into drainageways and/or seep into the soil
- Effectiveness depends on soil, temperature, humidity, and wind velocity.
- Chemically treated sub grades may make the soil water repellent, interfering with long-term infiltration and the vegetation/re-vegetation of the site. Some chemical dust suppressants may be subject to freezing and may contain solvents and should be handled properly.
- Asphalt, as a mulch tack or chemical mulch, requires a 24-hour curing time to avoid adherence to equipment, worker shoes, etc. Application should be limited because asphalt surfacing may eventually migrate into the drainage system.
- In compacted areas, watering and other liquid dust control measures may wash sediment or other constituents into the drainage system.

SITE CONDITION	DUST CONTROL PRACTICES								
	Permanent Vegetation	Mulching	Wet Suppression (Watering)	Chemical Dust Suppression	Gravel Or Asphalt	Silt Fences	Temporary Gravel Construction Entrances/Equipment Wash Down	Haul Truck Covers	Minimize Extent Of Disturbed Area
Disturbed Areas not Subject to Traffic	▨	▨	▨	▨	▨				▨
Disturbed Areas Subject to Traffic			▨	▨	▨		▨		▨
Material Stock Pile Stabilization			▨	▨		▨			▨
Demolition			▨				▨	▨	
Clearing/Excavation			▨	▨		▨			▨
Truck Traffic on Unpaved Roads			▨	▨	▨		▨	▨	
Mud/Dirt Carry Out					▨		▨		

Additional Preventative Measures include:

- Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the project.
- Water should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- Provide for rapid clean up of sediments deposited on paved roads. Furnish stabilized construction road entrances and vehicle wash down areas.
- Materials applied as temporary soil stabilizers and soil binders also generally provide wind erosion control benefits.
- Quickly stabilize exposed soils using vegetation, mulching, spray-on adhesives, calcium chloride, sprinkling, and stone/gravel layering.
- Limit the amount of areas disturbed by clearing and earth moving operations by scheduling these activities in phases.
- Pave or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Stabilize inactive construction sites using vegetation or chemical stabilization methods.
- Schedule construction activities to minimize exposed area.
- Identify and stabilize key access points prior to commencement of construction.
- Minimize the impact of dust by anticipating the direction of prevailing winds.
- Direct most construction traffic to stabilized roadways within the project site.
- All distribution equipment should be equipped with a positive means of shutoff.
- Provide covers for haul trucks transporting materials that contribute to dust.
- Provide for wet suppression or chemical stabilization of exposed soils.

Reference:

This information taken from the California Stormwater BMP Handbook
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PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

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SOLID WASTE MANAGEMENT

Description

Large volumes of solid waste are often generated at construction sites including; packaging, pallets, wood waste, concrete waste, soil, electrical wiring, cuttings, and a variety of other materials. The solid waste management practice lists techniques to minimize the potential of storm water contamination from solid waste through appropriate storage and disposal practices.

Primary Use

The practices should be a part of all construction practices. By limiting the trash and debris on site, storm water quality is improved along with reduced clean up requirements at the completion of the projects.

Applications

The solid waste management practice for construction sites is based on proper storage and disposal practices by construction workers and supervisors. Key elements of the program are education and modification of improper disposal habits. Cooperation and vigilance is required on the part of supervisors and workers to ensure that the recommendations and procedures are followed. Following are lists describing the targeted materials and recommended procedures:

Targeted Solid Waste Materials

Paper and cardboard containers
Plastic packaging
Styrofoam packing and forms
Insulation materials (non-hazardous)
Wood pallets
Wood cuttings
Pipe and electrical cuttings
Concrete, brick, and mortar waste
Shingle cuttings and waste
Roofing tar
Steel (cuttings, nails, rust residue)
Gypsum board cuttings and waste
Sheathing cuttings and waste
Miscellaneous cutting and waste
Food waste
Demolition waste

Storage Procedures

- Wherever possible, minimize production of solid waste materials.
- Designate a foreman or supervisor to oversee and enforce proper solid waste procedures.
- Instruct construction workers in proper waste procedures.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Keep solid waste materials under cover in either a closed dumpster or other enclosed trash container that limits contact with rain and runoff.
- Store waste materials away from drainage ditches, swales and catch basins.
- Do not allow trash containers to overflow.

- Do not allow waste materials to accumulate on the ground.
- Prohibit littering by workers and visitors.
- Police site daily for litter and debris.
- Enforce solid waste handling and storage procedures.

Disposal Procedures

- If feasible, segregate recyclable wastes from non-recyclables waste materials and dispose of properly.
- General construction debris may be hauled to a licensed construction debris landfill (typically less expensive that a sanitary landfill).
- Use waste facilities approved by local jurisdiction.
- Runoff which comes into contact with unprotected waste shall be directed into structural treatment such as silt fence to remove debris.

Education

- Educate all workers on solid waste storage and disposal procedures.
- Instruct workers in identification of solid waste and hazardous waste.
- Having regular meetings to discuss and reinforce disposal procedures (incorporate in regular safety seminars).
- Clearly mark on all solid waste containers which materials are acceptable.

Quality Control

- Foreman and/or construction supervisor shall monitor on-site solid waste storage and disposal procedures.
- Discipline workers who repeatedly violate procedures.

Requirements

- Job-site waste handling and disposal education and awareness program.
- Commitment by management to implement and enforce Solid Waste Management Program.
- Compliance by workers.
- Sufficient and appropriate waste storage containers.
- Timely removal of stored solid waste materials.
- Possible modest cost impact for additional waste storage containers.
- Small cost impact for training and monitoring.
- Minimal overall cost impact.

Limitations

Only addresses non-hazardous solid waste.
One part of a comprehensive construction site management program.

HAZARDOUS WASTE MANAGEMENT

Description

The hazardous waste management BMP addresses the problem of the storm water polluted with hazardous waste through spill or other forms of contact. The objective of the Management Program is to minimize the potential of stormwater contamination from common construction site hazardous wastes through appropriate recognition, handling storage and disposal practices.

It is not the intent of this Management Program to supercede or replace normal site assessment and remediation procedures. Significant spills and/or contamination warrant immediate response by trained professionals. Suspected job-site contamination should be immediately reported to regulatory authorities and protective actions taken. The General Permit requires reporting of significant spills to the National Response Center (NCR) at (800) 424-8802.

Primary Use

These management practices along with applicable OSHA and EPA guidelines should be incorporated at all construction sites, which use or generate hazardous waste. Many wastes such as fuel, oil, grease, fertilizer and pesticide are present at most construction sites.

Installation, Application and Disposal Criteria

The hazardous waste management techniques presented here are based on proper recognition, handling , and disposal practices by construction workers and supervisors. Key elements of the management program are education, proper disposal practices, as well as provisions for safe storage and disposal. Following are lists describing the targeted materials and recommended procedures:

Targeted Hazardous Waste Materials
- Paints
- Solvents
- Stains
- Wood preservatives
- Cutting oils
- Greases
- Roofing tar
- Pesticides
- Fuels & lube oils
- Lead based paints (Demolition)

Storage Procedures

- Wherever possible minimize use of hazardous materials.
- Minimize generation of hazardous wastes on the job-site.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Designate a foreman or supervisor to oversee hazardous materials handling procedures.
- Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.
- Store waste materials away from drainage ditches, swales and catch basins.
- Use containment berms in fueling and maintenance areas and where the potential for spills is high.
- Ensure that adequate hazardous waste storage volume is available.
- Ensure that hazardous waste collection containers are conviently located.

- Do not allow potentially hazardous waste handling and disposal procedures.
- Clearly mark on all hazardous waste containers which materials are acceptable for the container.

Disposal Procedures

- Regularly schedule hazardous waste removal to minimize on-site storage.
- Use reputable, licensed hazardous waste haulers.

Education

- Instruct workers in identification of hazardous waste.
- Educate workers of potential dangers to humans and the environment from hazardous wastes
- Instruct workers on safety procedures for common construction site hazardous wastes
- Educate all workers on hazardous waste storage and disposal procedures.
- Have regular meetings to discuss and reinforce identification, handling aand disposal procedures (incorporate in regular safety seminars).
- Establish a continuing education program to indoctrinate new employees.

Quality Assurance

- Foreman and/or construction supervisor shall monitor on-site hazardous waste storage and disposal procedures.
- Educate and if necessary, discipline workers who violate procedures.
- Ensure that the hazardous waste disposal contractor is reputable and licensed.

Requirements

- Job-site hazardous waste handling and disposal education and awareness program.
- Commitment by management to implement hazardous waste management practices.
- Compliance by workers
- Sufficient and appropriate hazardous waste storage containers.
- Timely removal of stored hazardous waste materials.

Costs

- Possible modest cost impact for additional hazardous storage containers.
- Small cost impact for training and monitoring.
- Potential cost impact for hazardous waste collection and disposal by licensed hauler-actual cost depends on type of material and volume.

Limitations

This practice is not intended to address site-assessments and pre-existing contamination. Major contamination, large spills or other serious hazardous waste incidents require immediate response from specialists. Demolition activities and potential pre-existing materials, such as asbestos, are not addressed by this program. Site specific information on plans is necessary. Contaminated soils are not addressed. One part of a comprehensive construction site waste management program.

Concrete Sawcutting Waste Management

DESCRIPTION

Sawcutting of concrete pavement is a routine practice, necessary to control shrinkage cracking immediately following placement of plastic concrete. It is also used to remove curb sections and pavement sections for pavement repairs, utility trenches, and driveways. Sawcutting for joints involves sawing a narrow, shallow groove in the concrete, while sawcutting for removals is usually done full depth through the slab. Water is used to control saw blade temperature and to flush the detritus from the sawed groove. The resulting slurry of process water and fine particles and high pH must be properly managed.

A number of water quality parameters can be affected by introduction of concrete fines. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of saw fines are also generated from sawcutting operations.

DESIGN CRITERIA

Slurry Collection

- ☐ During saw cutting operations, the slurry and cuttings shall be continuously vacuumed to control the flow of water from the operations site.
- ☐ The slurry and cuttings shall not be allowed to drain to the storm drain system, swale, stream or other water body.
- ☐ The slurry and cuttings shall not be allowed to remain on the pavement to dry out.

Slurry Disposal

- ☐ Develop pre-determined, safe slurry disposal areas.
- ☐ Collected slurry and cuttings shall be discharged in an area protected by one or more sediment removal BMPs and shall be done in a manner that does not result in a violation of groundwater or surface water quality standards.
- ☐ Never dump waste illicitly or without property owner's knowledge and consent.
- ☐ Slurry may be disposed of in facilities designated for washdown of concrete trucks (see M-3, Concrete Waste Management).

MAINTENANCE

Project personnel should inspect the operations to assure that operators are diligent in controlling the water produced by the saw cutting activities. Following operations the pavement should be inspected to ensure that waste removal has been adequately performed.

Applications

Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
[✓ Waste Management]
[✓ Housekeeping Practices]

Targeted Constituents

- ○ Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ● Other Construction Wastes

Implementation Requirements

- ○ Capital Costs
- ◒ Maintenance
- ◒ Training
- ○ Suitability for Slopes > 5%

Legend

- ○ Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

M-4

North Central Texas
Council of Governments

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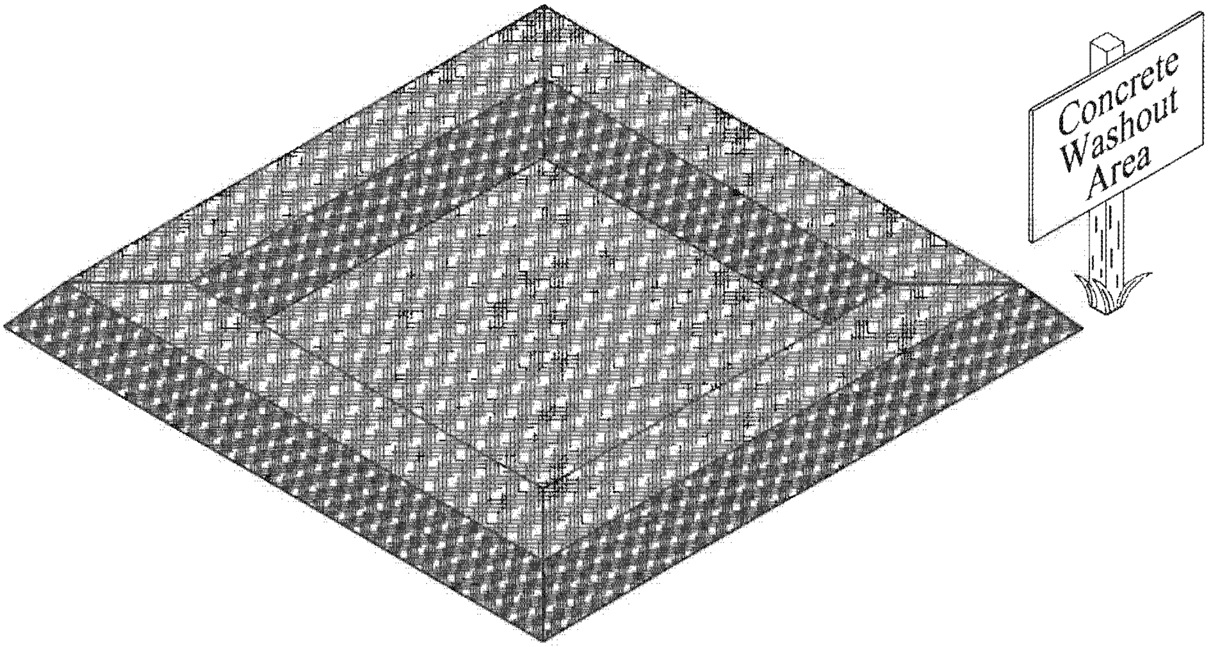
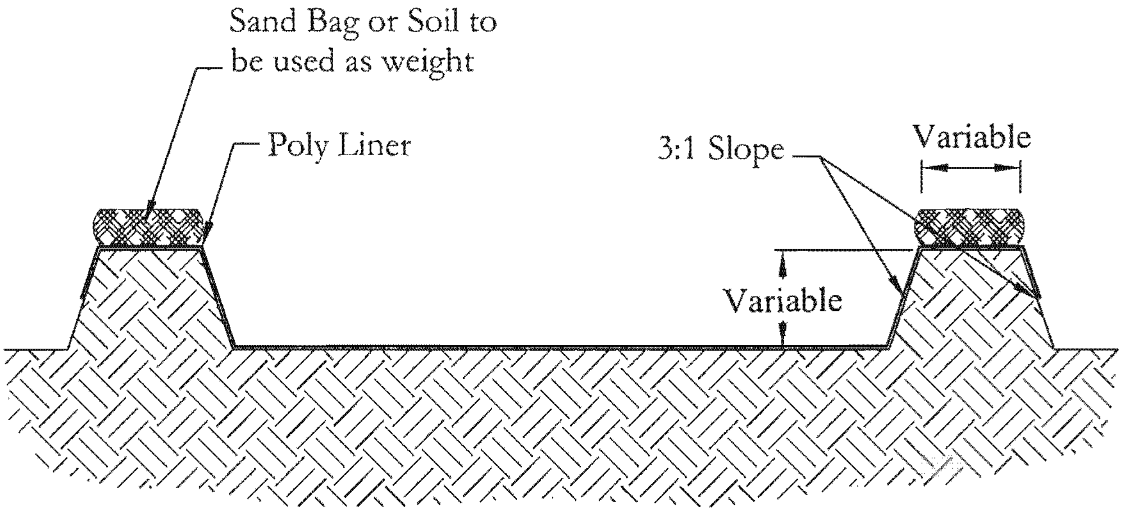
Concrete Washout Area

For use in High Water Table Areas





PARADIGM
ENGINEERING, Ltd.

1965 Lakepointe Drive
Lewisville, TX 75057
Office (972) 829-8100
Toll Free (888) 243-3605
Fax (972) 829-8101
www.paradigm-engineering.com

CONCRETE WASTE MANAGEMENT

Description

Concrete waste at construction sites comes in two forms; 1) excess fresh concrete mix including truck and equipment washing, and 2) concrete dust and concrete debris resulting from demolition. Both forms have the potential to impact water quality through storm water runoff contract with the waste.

Primary Use

Concrete waste is present at most construction sites. This BMP should be utilized at sites in which concrete waste is present.

Applications

A number of water quality parameters can be affected by introduction of concrete-especially fresh concrete. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of both cement and aggregate dust are also generated from both fresh and demolished concrete waste.

Current Unacceptable Waste Concrete Disposal Practices

- Dumping in vacant areas on the job-site
- Illicit dumping off-jobsite.
- Dumping into ditches or drainage facilities

Recommended Disposal Practices

- Avoid unacceptable disposal practices listed above.
- Develop pre-determined, safe concrete disposal areas.
- Provide a washout area with a minimum of 6 cubic feet of containment ara volume for every 10 cubic yards of concrete poured.
- Never dump waste concrete illicitly or without property owners knowledge and consent.
- Treat runoff from storage areas through the use of structural controls as required.

Education

- Drivers and equipment operators should be instructed on proper disposal and equipment washing practices (see above).
- Supervisors must be made aware of the potential environmental consequences of improperly handled concrete waste.

Enforcement

- The construction site manager or foreman must ensure that employees and pre-mix companies follow proper procedures for concrete disposal and equipment washing.
- Employees violating disposal or equipment cleaning directives must be re-educated or disciplined if necessary.

Demolition Practices

- Monitor weather and wind direction to ensure concrete dust is not entering drainage structures and surface waters.

- When appropriate, construct sediment traps or other types sediment detention devices downstream of demolition activities.

Requirements

- Use pre-determined disposal sites for concrete.
- Prohibit dumping waste concrete anywhere but pre-determined areas.
- Assign pre-determined truck and equipment washing areas.
- Educate drivers and operators o n proper disposal and equipment cleaning procedures.

Costs

- Minimal Cost impact for training and monitoring.
- Concrete disposal cost depends on availability and distance to suitable disposal areas.
- Additional costs involved in equipment washing could be significant.

Limitations

The concrete waste management program is one part of a comprehensive construction site waste management program.

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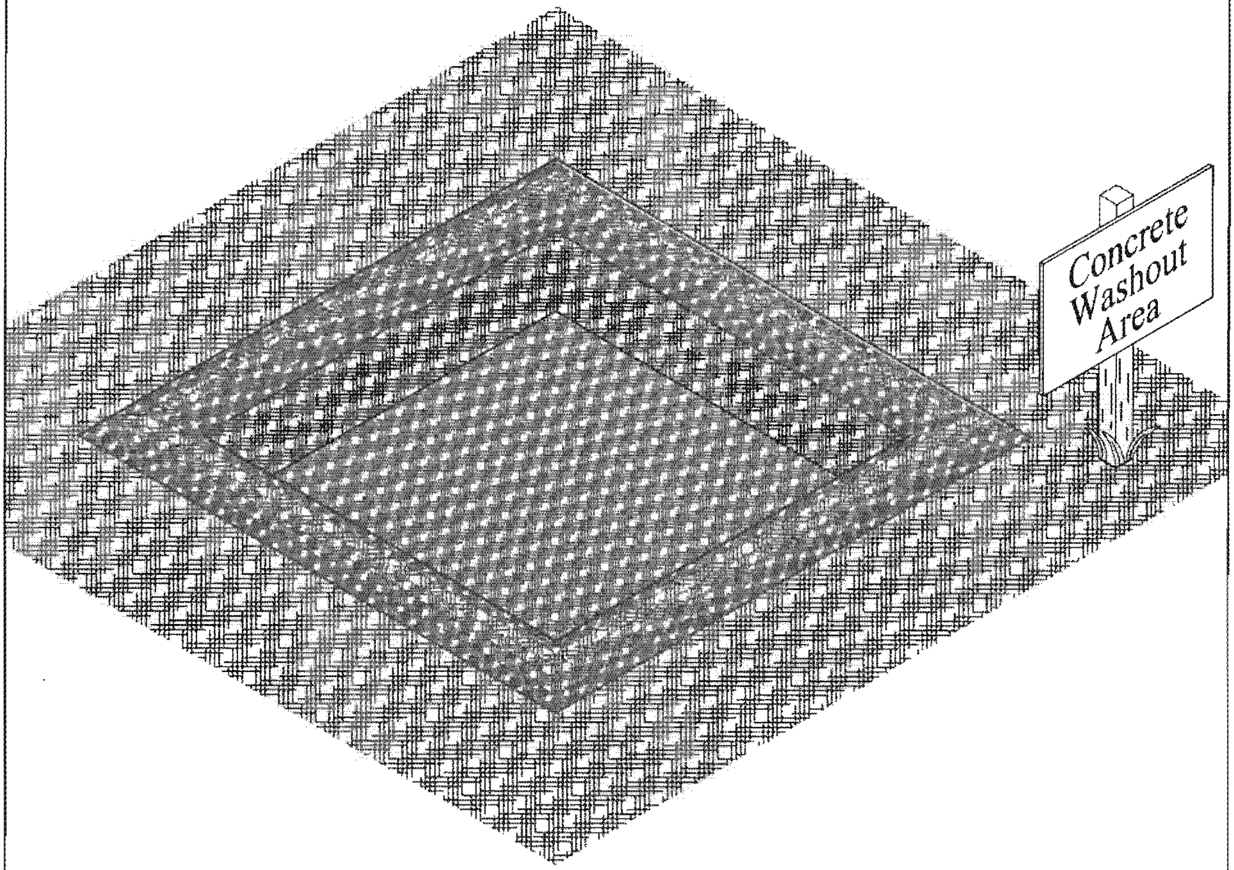
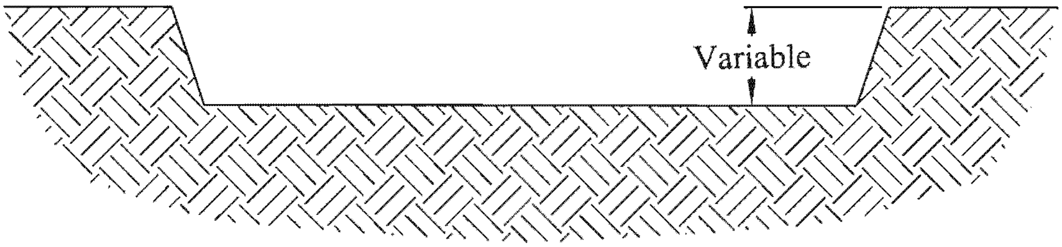
Concrete Washout Area





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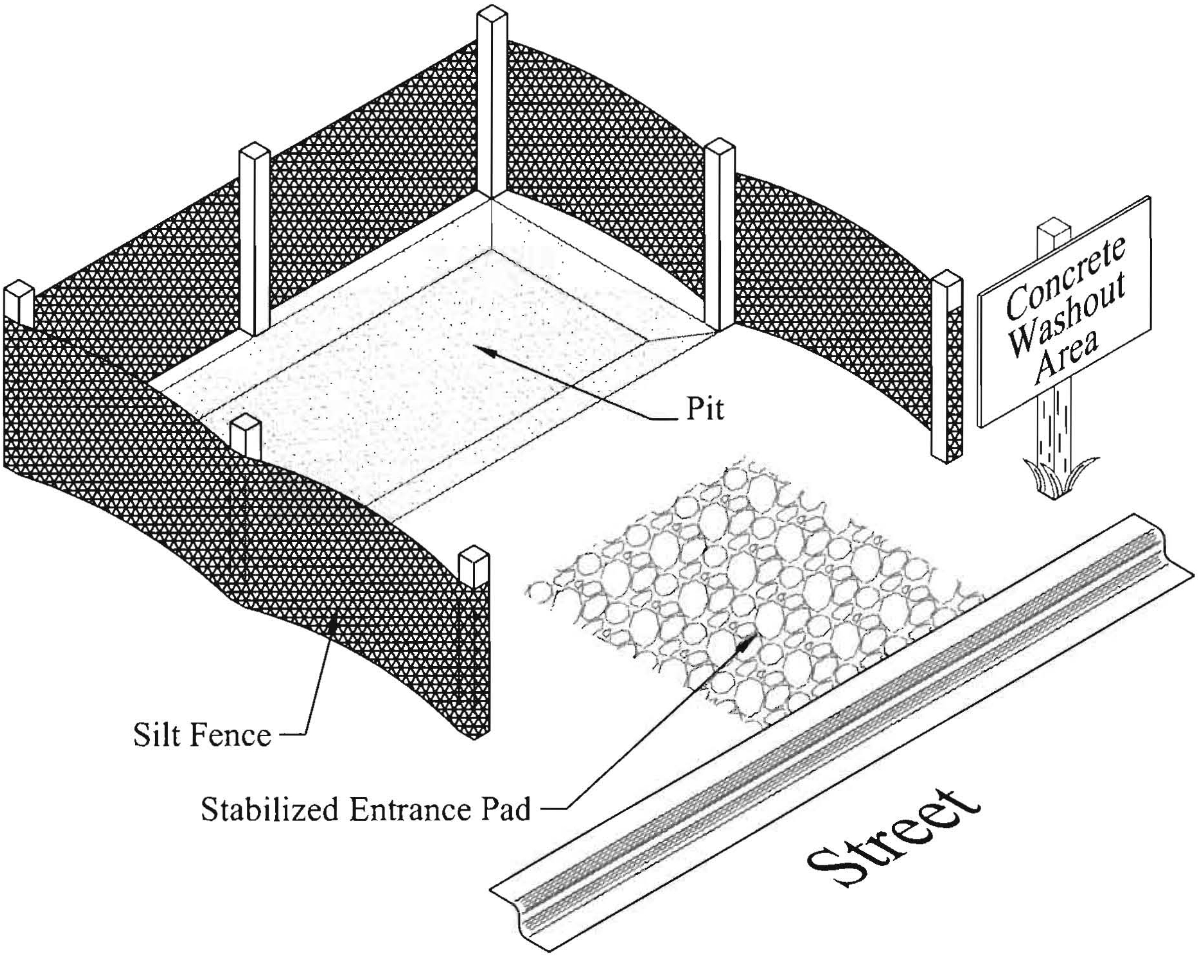
Concrete Washout Area



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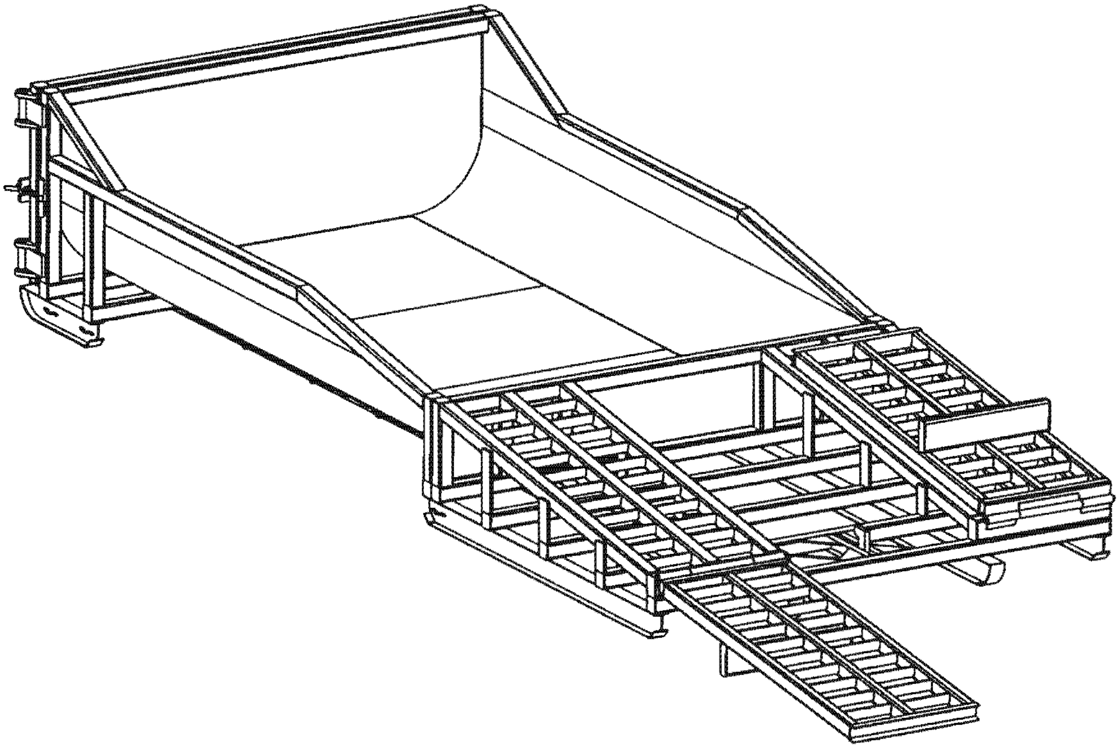
Portable Concrete Washout Container
(Patent Currently Pending by Concrete Washout Systems, Inc.)



DRAWING BY OTHERS

Definition

A portable self-contained and water-tight bin that contains concrete washout, material, and wastewater.

Purpose

Allows operators to wash out concrete trucks, pumps, and equipment on-site and facilitate off-site recycling of concrete material.

Conditions Where Practice Applies

New construction projects where concrete is used as a construction material or demolition projects where concrete dust and debris result from demolition activities.

Design Criteria

The container must be portable, watertight, temporary, and equipped with ramps. A capacity of 350 cubic yards of poured concrete is recommended. Cleanout when ¾ full.

Contact Information

Concrete Washout Systems, Inc.
P.O. Box 809
Wilton, CA. 95693
www.concretewashout.com
Toll Free: 1-877-2-WASHOUT
(1-877-292-7468)
Fax: (916) 689-0592

PARADIGM
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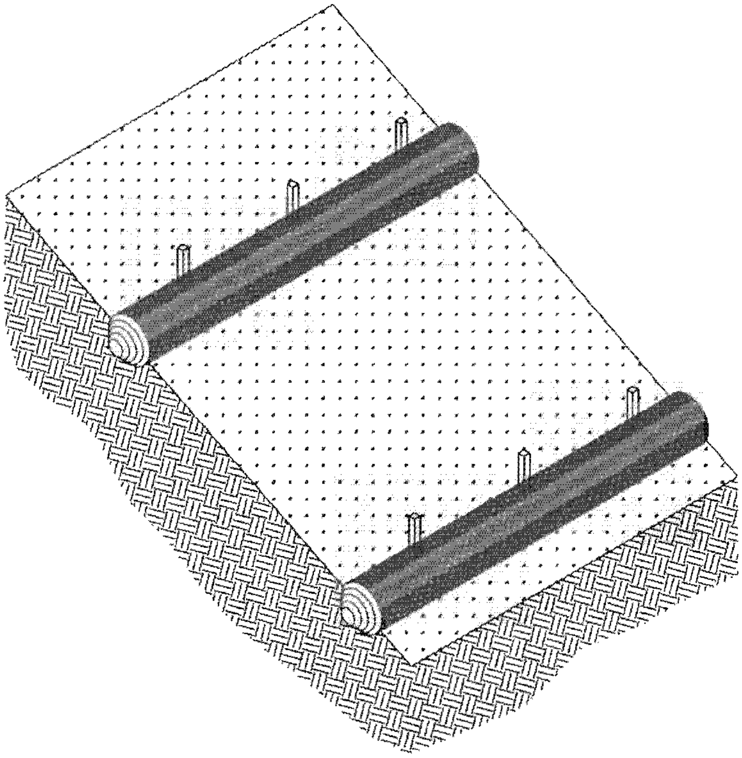
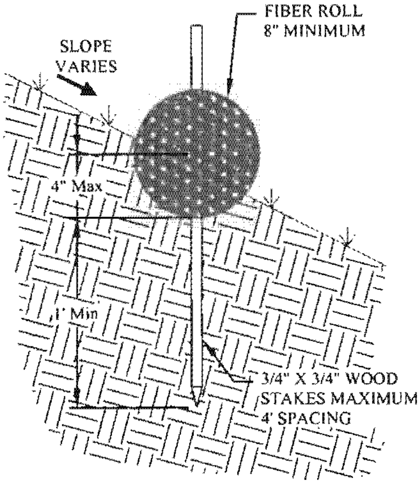
Fiber Rolls





Definition

Tubes of straw or fiber used for erosion control, sediment control, and stormwater runoff control. Plastic netting or burlap contain the straw or fiber.

Purpose

Fiber rolls allow water to pass through while decreasing runoff velocity, increasing infiltration rates, and trapping sediments. Also known as sediment logs or wattles, they can provide temporary or permanent controls and biodegrade with time.

Conditions where the Practice Applies

* Along the face of slopes to reduce the slope length.
* At grade breaks where slopes transition from shallow to steep.
* In drainage swales.
* Along streambanks.
* On flat ground such as urban development projects.

Limitations

* Applicable where surface flows do not exceed 1 cfs and on slopes of less than 3H:1V
* Fiber rolls are not to be used at the base of slopes in place of linear sediment barriers such as silt fences.
* Not recommended in concentrated flow areas.

Standards and Specifications

* Fiber rolls are either prefabricated rolls or rolled tubes of erosion control blankets 8-9" in diameter.
* Remove debris and larger stones from the sloped area before installing the fiber roll.
* Slope ends slightly down slope to prevent ponding in middle.
* Must be installed in shallow trenches.

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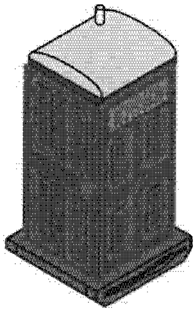
Sanitary/Septic Waste Management



Description and Purpose

Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

Suitable Application

Sanitary septic waste management practices are suitable for use at all construction sites that use temporary or portable sanitary and septic waste systems.

Implementation

Sanitary or septic wastes should be treated or disposed of in accordance with state and local requirements by reputable, licensed sanitary and septic waste haulers. If using an onsite disposal system (OSDS), such as a septic system, local health agency requirements must be followed.

Procedures

- Portable toilets must be provided if no permanent facilities are available.
- Sanitary facilities must be provided on the site in close proximity to areas where people are working.
- Locate portable toilets a minimum of 20 feet away from storm drain inlets, conveyance channels, or surface waters. If unable to meet 20-foot distance requirement, provide containment for portable toilets.
- Temporary sanitary facilities should be located away from drainage facilities, watercourses, and from traffic circulation.
- Untreated raw wastewater should never be discharged or buried.
- Temporary septic systems should treat wastes to appropriate levels before discharging.
- Temporary sanitary facilities that discharge to the sanitary sewer system should be properly connected to avoid illicit discharges.
- Sanitary and septic facilities should be maintained in good working order by a licensed service.
- Regular waste collection by a licensed hauler should be arranged before facilities overflow.

Inspection and Maintenance

- Regular waste collection by a licensed hauler should be arranged before construction begins.
- If high winds are expected, portable sanitary facilities must be secured with spikes or weighed down to prevent over turning.

The Home Depot U.S.A., Inc.
The Home Depot
Bulverde, Texas

Receiving Water Body: Lewis Creek

ACTIVITY	PRESENT
a. Undisturbed Areas	Yes
b. Off-Site Storage	No
c. Off-Site Borrow/Waste	No
d. Surface Waters	Yes
e. Wetlands	No
f. Industrial Activity	No
g. Lat/Long of Outfalls to Surface Waters	No

APPENDIX 2.0
Professional Engineer Certifications

This plan has been prepared in accordance with good engineering practice and the Clean Water Act. Unless otherwise noted, referenced standards and specifications for BMPs included in this document follow recommendations in the *National Catalog of Erosion and Sediment Control and Storm Water Management*, "Guidelines for Community Assistance, Appendix 1 – Representative Examples" dated Feb. 1996 USDA-NRCS. If safety is an issue, or a revision in design is needed, contact Paradigm Engineering. Special designs will be individually sealed.

GARY J. STEIGMAN
89686

Signature: Gary J Steigman

Name: Gary J. Steigman, P.E., CPESC
Paradigm Engineering

Certifying SWPPP for: The Home Depot U.S.A., Inc.
Dallas, Texas

Project: The Home Depot
Bulverde, Texas

Date: 6/13/05
Registration No. 89686
State: Texas

Definition "Qualified personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to assess conditions at the site that could impact stormwater quality and the effectiveness of the BMPs selected to control the quality of the stormwater discharges.

Storm Water Construction Inspector Qualifications	
Inspector's Name	
Training Received	
Training Covered	
Construction Experience	
Installing Sediment and Erosion Control Experience	
Storm Water Construction Inspection Experience	

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APPENDIX 4.0
Inspection Forms

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Commercial Construction/Implementation Compliance Inspection

Contractor: ____________________

Project Location: ____________________

Conducted By: ____________________ **Date:** ____________

Executive Summary

Note below the problems found that need correction from this inspection and document actions taken to correct problems found in previous inspections.

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________
10. ____________________

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Commercial Construction/Implementation Compliance Inspection

Contractor: ______________________________

Project Location: ______________________________

Conducted By: ______________________ **Date:** ______________

Part 1: Verify what stage of construction project is in, and record dates when activities started and were completed.		
a. Construction Phasing		
Activity	**Current Status/Problems Found**	**Activity Complete**
Location		
Site Clearing and Grading		
Utilities Installation		
Build Structure		
Paving and Walks		
Final Grading/Stabilize Site		
Construction Complete		
BMPs in Place		
Other		

Notes:

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________

Part 2: Walk through the facility and look for signs of pollution including paint, solvents, chemicals, solid waste, oil, fuel, and signs of soil erosion.

b. Site Inspection	**Y**	**N**	**Notes**
1. Are there signs of pollution leaving site?			
2. Are structural BMPs working properly?			
3. Are structural BMPs in good condition?			
4. Are additional BMPs needed?			
5. Is Construction Permit Notice posted?			

Part 3: Inspection Report Summary.

c. Inspection Report Summary	**Information/Comments**
1. Name of Inspector	
2. Qualifications of Inspector	
3. Measures/Areas Inspected	
4. Observed Conditions	
5. Changes necessary to the SWPPP	
6. Was inspection conducted within 24 hours of last rainfall over ½"?	

Part 4: Walk through the facility and look for signs of pollution including paint, solvents, chemicals, solid waste, oil, and fuel.

d. Site Inspection	**Y**	**N**	**Notes**
1. Are there any signs of hazardous materials being exposed to storm water runoff?			
2. Have there been any reportable quantity releases of hazardous materials?			
3. Was the National Response Center notified?			
4. Was permitting authority notified in writing within 14 days?			
5. Was the SWPPP modified to include:			
• Date of the release			
• Circumstances leading to release			
• Steps taken to prevent reoccurrence			

Notes:

1. ______________________________
2. ______________________________
3. ______________________________

Part 5: Are any modifications to the SWPPP needed?

e. Modification of SWPPP	**Y**	**N**	**Notes**
1. Has TCEQ or the City notified you of any changes needed to comply?			
2. Have there been any changes in design, construction operation or maintenance, which has a potential for pollution discharge?			
3. If a reportable quantity release occurred, has the SWPPP been changed to prevent reoccurrence?			

Part 6: Final Stabilization/Termination Checklist.

f. Final Stabilization/Termination Checklist	**Y**	**N**	**Notes**
1. Are all soil-disturbing activities complete?			
2. Are temporary erosion/ sediment control measures removed/will be removed when appropriate?			
3. Have all areas of the site not covered by pavement or structure achieved a density of 70% coverage?			
4. Date of Final Stabilization			
5. Has a Notice of Termination been filed?			

If construction ceases on the site for more than 14 days, the site must be stabilized until construction resumes, unless activities will resume within 21 days.

Date Construction Stopped	**Date Construction Resumed**	**Measures Taken to Stabilize Site**

CHECK IF THIS IS TRUE.

YES	There were **NO** incidents of non-compliance noted during inspection. The facility is in compliance with the SWPPP and the Texas General Permit to Discharge Waste.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.128 to sign this document and can provide documentation in proof of such authorization upon request."

Signature: ______________________ Printed Name: ______________________

Date: ______________________ Title: ______________________

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After Storm Event Construction Compliance Inspection

Contractor: ______________________________

Project Location: ______________________________

Conducted By: ______________________ **Date:** ____________

Part 1: **Walk through the facility and look for signs of erosion control measures that may have failed or been damaged from the recent rainfall event.**			
a. Site Inspection	**Y**	**N**	**Notes**
1. Are there any erosion control structures damaged from the storm event?			
2. Are there signs of new ruts or gullies from the storm event?			
3. Are there signs of significant amounts of mud in the street or outfalls from the rainfall event?			
4. Are there any conditions that need immediate attention?			

Part 2: Inspection report summary.	
b. Inspection Report Summary	**Information/Comments**
1. Name of Inspector	
2. Qualifications of Inspector	
3. Measures/Areas Inspected	
4. Observed conditions:	
5. Changes necessary to the SWPPP:	
6. Was inspection conducted within 24 hours of last rainfall over ½"?	

CHECK ONLY IF THIS IS TRUE.	
YES	There were **NO** incidents of non-compliance noted during inspection. The facility is in compliance with the SWPPP and the Texas General Permit to Discharge Waste.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.128 to sign this document and can provide documentation in proof of such authorization upon request."

Signature: ______________________ Printed Name: ______________________

Date: ______________________ Title: ______________________

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Log of Corrective Actions Taken

No.	Description of Corrective Action Needed	Date Noted	Date Corrected

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This plan has been prepared in accordance with good engineering practice and the rules of the Clean Water Act. This document represents a planning tool to assist the contractor to comply with environmental regulations during the project construction.

The decisions on how to operate the construction site rest solely with the contractor and not with Paradigm Engineering. Therefore, Paradigm Engineering is not liable for the operational decisions of the contractor or the failure of the contractor to follow the recommendations as outlined in the SWPPP.

Contractor agrees to hold Paradigm Engineering harmless for any potential violations the contractor may receive for operational violations from regulatory agencies, including but not limited to, such as city governments, the State, or EPA. Paradigm Engineering will answer questions on how the SWPPP was prepared and defend recommendations made with any regulated authority that may request it.

By accepting the SWPPP, the contractor accepts this disclaimer and its conditions.

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TPDES General Permit
NO. TXR150000

This is a new general permit issued pursuant to Section 26.040 of the Texas Water Code and Section 402 of the Clean Water Act.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. BOX 13087
Austin, TX 78711-3087

GENERAL PERMIT TO DISCHARGE WASTE

under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Construction sites located in the state of Texas

may discharge to surface water in the state

only according to effluent limitations, monitoring requirements and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this general permit does not grant to the permittee the right to use private or public property for conveyance of storm water and certain non-storm water discharges along the discharge route. This includes property belonging to but not limited to any individual, partnership, corporation or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit and the authorization contained herein shall expire at midnight five years after the date of issuance.

ISSUED AND EFFECTIVE DATE: MAR 05 2003

For the Commission

TCEQ General Permit Number TXR150000 Relating To Discharges From Construction Activities

Table of Contents

Part I. Definitions

Best Management Practices - (BMPs) Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.

Commencement of Construction - The exposure of soils resulting from activities such as clearing, grading, and excavating.

Common Plan of Development - A construction activity that is completed in separate stages, separate phases, or in combination with other construction activities. A common plan of development is identified by the documentation for the construction project that identifies the scope of the project, and may include plats, blueprints, marketing plans, contracts, building permits, a public notice or hearing, zoning requests, or other similar documentation and activities.

Facility or Activity - Any TPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the TPDES program.

Final Stabilization -A construction site status where either of the following conditions are met:

(a) All soil disturbing activities at the site have been completed and a uniform (e.g, evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or goetextiles) have been employed.

(b) For individual lots in a residential construction site by either:

(1) the homebuilder completing final stabilization as specified in condition (a) above; or

(2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization.

(c) For construction activities on land used for agricultural purposes (e.g. pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to a surface water and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

Large Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than five (5) acres of land. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, and original purpose of a ditch, channel, or other similar storm water conveyance. Large construction activity does not include the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.

Municipal Separate Storm Sewer System (MS4) - A separate storm sewer system owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over the disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district, flood control or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization.

Notice of Intent (NOI) - A written submission to the Executive Director from an applicant requesting coverage under a general permit.

Notice of Termination (NOT) - A written submission to the Executive Director from a permittee authorized under a general permit requesting termination of coverage.

Operator - The person or persons associated with a large or small construction activity that meets either of the following two criteria:

(a) the person or persons have operational control over construction plans and specifications to the extent necessary to meet the requirements and conditions of this General permit; or

(b) the person or persons have day-to-day operational control of those activities at a construction site which are necessary to ensure compliance with a storm water pollution prevention plan for the site or other permit conditions (e.g. they are authorized to direct workers at a site to carry out activities required by the Storm Water Pollution Prevention Plan or comply with other permit conditions).

Permittee -An operator authorized under this general permit. The authorization may be gained through submission of a notice of intent, by waiver, or by meeting the requirements for automatic coverage to discharge storm water runoff and certain non-storm water discharges.

Point Source - Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - (from the Texas Water Code, Chapter 26) Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into any surface water in the state. The term "pollutant" does not include tail water or runoff water from irrigation or rainwater runoff from cultivated or uncultivated rangeland, pastureland, and farmland.

Pollution - (from the Texas Water Code, Chapter 26) The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any surface water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

Runoff Coefficient - The fraction of total rainfall that will appear at the conveyance as runoff.

Separate Storm Sewer System - A conveyance or system of conveyances (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), designed or used for collecting or conveying storm water; that is not a combined sewer, and that is not part of a publicly owned treatment works (POTW).

Small Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres of land. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, and original purpose of a ditch, channel, or other similar storm water conveyance. Small construction activity does not include the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.

Storm Water - Storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm Water Associated with Construction Activity - Storm water runoff from a construction activity where soil disturbing activities (including clearing, grading, excavating) result in the disturbance of one (1) or more acres of total land area, or are part of a larger common plan of development or sale that will result in disturbance of one (1) or more acres of total land area.

Structural Control (or Practice) -A pollution prevention practice that requires the construction of a device, or the use of a device, to capture or prevent pollution in storm water runoff. Structural controls and practices may include but are not limited to: silt fences, earthen dikes, drainage swales, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Surface Water in the State - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (MHWM) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

Temporary Stabilization - A condition where exposed soils or disturbed areas are provided a protective cover, which may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place.

Waters of the United States - (from title 40, part122, section 2 of the Code of Federal Regulations) Waters of the United States or waters of the U.S. means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

  (1) which are or could be used by interstate or foreign travelers for recreational or other purposes;

  (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

  (3) which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial sea; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Part II. Permit Applicability and Coverage

Section A. Discharges Eligible for Authorization

1. Storm Water Associated with Construction Activity

Discharges of storm water runoff from small and large construction activities may be authorized under this general permit.

2. Discharges of Storm Water Associated with Construction Support Activities

Discharges of storm water runoff from construction support activities, including concrete batch plants, asphalt batch plants, equipment staging areas, material storage yards, material borrow areas, and excavated material disposal areas may be authorized under this general permit provided:

(a) the activity is located within a 1-mile distance from the boundary of the permitted construction site and directly supports the construction activity;

(b) the storm water pollution prevention plan is developed according to the provisions of this general permit and includes appropriate controls and measures to reduce erosion and discharge of pollutants in storm water runoff from the supporting industrial activity site; and

(c) the industrial activity either does not operate beyond the completion date of the construction activity or obtains separate TPDES authorization for discharges.

3. Non-storm Water Discharges

The following non-storm water discharges from sites authorized under this general permit are also eligible for authorization under this general permit:

(a) discharges from fire fighting activities;

(b) fire hydrant flushings;

(c) vehicle , external building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials have been removed; and if local state, or federal regulations are applicable, the materials are removed according to those regulations), and where the purpose is to remove mud, dirt, an dust;

(d) water used to control dust;

(e) potable water sources including waterline flushings;

(f) air conditioning condensate;

(g) uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents.

4. Other Permitted Discharges

Any discharge authorized under a separate NPDES, TPDES, or TCEQ permit may be combined with discharges authorized by this permit.

Section B. Limitations on Permit Coverage

1. Post Construction Discharges.

Discharges that occur after construction activities have been completed, and after the construction site and any supporting activity site have undergone final stabilization, are not eligible for coverage under this general permit. Discharges originating from the sites are not authorized under this general permit following the submission of the notice of termination (NOT) for the construction activity.

2. Prohibition of Non-Storm Water Discharges

Except as provided in Part II. A.2., A3., and A4., all discharges authorized by this general permit must be composed entirely of storm water associated with construction activity.

3. Compliance With Water Quality Standards

Discharges to surface water in the state that would cause or contribute to a violation of water quality standards or that would fail to protect and maintain existing designated uses are not eligible for coverage under this general permit. The executive director may require an application for an individual permit or alternative general permit (see Part II.G.3) to authorize discharges to surface water in the state from any activity that is determined to cause a violation of water quality standards or is found to cause, or contribute to, the loss of a designated use. The executive director may also require an application for an individual permit considering factors described in Part II. G.2.

4. Discharges to Water Quality-Impaired Receiving Waters.

New sources or new discharges of the constituents of concern to impaired waters are not authorized by this permit unless otherwise allowable under 30 TAC Chapter 305 and applicable state law. Impaired waters are those that do not meet applicable water quality standards and are listed on the EPA approved Clean Water Act Section 303(d) list. Constituents of concern are those for which the water body is listed as impaired.

Discharges of the constituents of concern to impaired water bodies for which there is a total maximum daily load (TMDL) implementation plan are not eligible for this permit unless they are consistent with the approved TMDL and the implementation plan. Permittees must incorporate the limitations, conditions, and requirements applicable to their discharges, including monitoring frequency and reporting required by TCEQ rules, into their storm water pollution prevention plan in order to be eligible for coverage under this general permit.

5. Discharges to the Edwards Aquifer Recharge Zone

Discharges cannot be authorized by this general permit where prohibited by 30 Texas Administrative Code (TAC) Chapter 213 (relating to Edwards Aquifer).

(a) For new discharges located within the Edwards Aquifer Recharge Zone, or within that area upstream from the recharge zone and defined as the Contributing Zone, operators must meet all applicable requirements of, and operate according to, 30 TAC Chapter 213 (Edwards Aquifer Rule) in addition to the provisions and requirements of this general permit.

(b) For existing discharges, the requirements of the agency-approved Water Pollution Abatement Plan under the Edwards Aquifer Rules are in addition to the requirements of this general permit. BMPs and maintenance schedules for structural storm water controls, for example, may be required as a provision of the rule. All applicable requirements of the Edwards Aquifer Rule for reductions of suspended solids in storm water runoff are in addition to the requirements in this general permit for this pollutant. For discharges from large construction activities located on the Edwards Aquifer contributing zone, applicants must also submit a copy of the NOI to the appropriate TCEQ regional office."

Counties:		Contact:
Comal, Bexar, Medina, And Kinney	Uvalde	TCEQ Water Program Manager San Antonio Regional Office 14250 Judson Rd. San Antonio, Texas (210) 490-3096 \
Williamson, Travis and	Hays	TCEQ Water Program Manager Austin Regional Office 1921 Cedar Bend Dr., Ste. 150 Austin, Texas (512) 339-2929

6. Discharges to Specific Watersheds and Water Quality Areas

Discharges otherwise eligible for coverage cannot be authorized by this general permit where prohibited by 30 TAC Chapter 311 (relating to Watershed Protection) for water quality areas and watersheds.

7. Protection of Streams and Watersheds by Other Governmental Entities

This general permit does not limit the authority or ability of federal, other state, or local governmental entities from placing additional or more stringent requirements on construction activities or discharges from construction activities. For example, this permit does not limit the authority of a home-rule municipality provided by Section 401.002 of the Texas Local Government Code.

8. Indian Country Lands

Storm water runoff from construction activities occurring on Indian Country lands are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of storm water require authorization under federal National Pollutant Discharge Elimination System (NPDES) regulations, authority for these discharges must be obtained from the U.S. Environmental Protection Agency (EPA).

9. Oil and Gas Production

Storm water runoff from construction activities associated with the exploration, development, or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline, are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of storm water require authorization under federal NPDES regulations, authority for these discharges must be obtained from the EPA.

10. Storm Water Discharges from Agricultural Activities

Storm water discharges from agricultural activities that are not point source discharges of storm water are not subject to TPDES permit requirements. These activities may include clearing and cultivating ground for crops, construction of fences to contain livestock, construction of stock ponds, and other similar agricultural activities.

Section C. Deadlines for Obtaining Authorization to Discharge

1. Large Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the issuance date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Operators of large construction activities continuing to operate after the issuance date of this permit, and authorized under NPDES general permit TXR100000 (issued July 6, 1998, FR 36490), must submit an NOI to obtain authorization under this general permit within 90 days of the issuance date of this general permit. During this interim period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the federal NPDES permit. If the construction activity is completed prior to this 90-day deadline, and the site would otherwise qualify for termination of coverage under that federal NPDES permit, the operator must notify the executive director of the TCEQ in writing within 30 days of that condition.

2. Small Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the issuance date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Discharges from ongoing small construction activities that commenced prior to March 10, 2003, and that would not meet the conditions to qualify for termination of this permit as described in Part II.E. of this general permit, must be authorized, either under this general permit or a separate TPDES permit, prior to March 10, 2003.

Section D. Obtaining Authorization to Discharge

1. Small construction activities are determined to occur during periods of low potential for erosion, and operators of these sites may be automatically authorized under this general permit and not required to develop a storm water pollution prevention plan or submit a notice of intent (NOI), provided:

   (a) the construction activity occurs in a county listed in Appendix A;

   (b) the construction activity is initiated and completed, including either final or temporary stabilization of all disturbed areas, within the time frame identified in Appendix A for the location of the construction site;

   (c) all temporary stabilization is adequately maintained to effectively reduce or prohibit erosion, final stabilization activities have been initiated and a condition, of final stabilization is completed no later than 30 days following the end date of the time frame identified in Appendix A for the location of the construction site;

   (d) the permittee signs a completed construction site notice (Attachment 1 of this general permit), including the certification statement;

   (e) a signed copy of the construction site notice is posted at the construction site in a location where it is readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction activities, and maintained in that location until completion of the construction activity;

   (f) a copy of the signed and certified construction site notice is provided to the operator of any municipal separate storm sewer system receiving the discharge at least two days prior to commencement of construction activities; and

   (g) any supporting concrete batch plant or asphalt batch plant is separately authorized for discharges of storm water runoff or other non-storm water discharges under an individual TPDES permit, another TPDES general permit or under an individual TCEQ permit where storm water and non-storm water is disposed of by evaporation or irrigation (discharges are adjacent to water in the state).

2. Operators of small construction activities not described in Part II.D.1. above may be automatically authorized under this general permit, and operators of these sites are not required to submit an NOI provided they:

   (a) develop a SWP3 according to the provisions of this general permit, that covers either the entire site or all portions of the site for which the applicant is the operator, and implement that plan prior to commencing construction activities;

(b) sign a completed construction site notice (Attachment 2 of this general permit);

(c) post a signed copy of the construction site notice at the construction site in a location where it is readily available for viewing by the general public, local, state, and federal authorities, prior to commencing construction activities, and maintain the notice in that location until completion of the construction activity; and

(d) provide a copy of the signed and certified construction site notice to the operator of any municipal separate storm sewer system receiving the discharge at least two days prior to commencement of construction activities.

3. Operators of all other construction activities that qualify for coverage under this general permit must:

(a) develop a SWP3 according to the provisions of this general permit, that covers either the entire site or all portions of the site for which the applicant is the operator, and implement that plan prior to commencing construction activities;

(b) submit a Notice of Intent (NOI), using a form provided by the executive director, at least 2 days prior to commencing construction activities; or

(c) if the operator changes, or an additional operator is added after the initial NOI is submitted, the new operator must submit an NOI at least two (2) days before assuming operational control;

(d) post a copy of the NOI at the construction site in a location where it is readily available for viewing prior to commencing construction activities, and maintain the notice in that location until completion of the construction activity;

(e) provide a copy of the signed NOI to the operator of any municipal separate storm sewer system receiving the discharge, at least two (2) days prior to commencing construction activities; and

(f) implement the SWP3 prior to beginning construction activities.

4. Effective Date of Coverage

(a) Operators of construction activities described in either Part II. D.1. or D.2. are authorized immediately following compliance with the conditions of Part II. D.1. or D.2. that are applicable to the construction activity.

(b) Operators of all other construction activities eligible for coverage under this general permit, unless otherwise notified by the executive director, are provisionally authorized two (2) days from the date that a completed NOI is postmarked for delivery to the TCEQ. If electronic submission of the NOI is provided, and unless otherwise notified by the executive director, operators are provisionally authorized 24 hours following confirmation of receipt of the NOI by the TCEQ. Authorization is non-provisional when the executive director finds the NOI is administratively complete and an authorization number is issued for the activity.

(c) Operators are not prohibited from submitting late NOIs or posting late notices to obtain authorization under this general permit. The TCEQ reserves the right to take appropriate enforcement actions for any unpermitted activities that may have occurred between the time construction commenced and authorization is obtained.

5. Notice of Change (NOC) Letter

If the operator becomes aware that it failed to submit any relevant facts, or submitted incorrect information in an NOI, the correct information must be provided to the executive director in a NOC letter within 14 days after discovery. If relevant information provided in the NOI changes, a NOC letter must be submitted within 14 days of the change. A copy of the NOC must be provided to the operator of any MS4 receiving the discharge.

6. Signatory Requirement for NOI Forms, Notice of Termination (NOT) Forms, NOC Letters, and Construction Site Notices

NOI forms, NOT forms, NOC letters, and Construction Site Notices must be signed according to 30 TAC § 305.44 (relating to Application for Permit).

7. Contents of the NOI

The NOI form shall require, at a minimum, the following information:

(a) the name, address, and telephone number of the operator filing the NOI for permit coverage;

(b) the name (or other identifier), address, county, and latitude/longitude of the construction project or site;

(c) number of acres that will be disturbed (estimated to the largest whole number);

(d) whether the project or site is located on Indian Country lands;

(e) confirmation that a SWP3 has been developed and that the SWP3 will be compliant with any applicable local sediment and erosion control plans; and

(f) name of the receiving water(s).

Section E. Application to Terminate Coverage

Each operator that has submitted an NOI for authorization under this general permit must apply to terminate that authorization following the conditions described in this section of the general permit. Authorization must be terminated by submitting a Notice of Termination (NOT) on a form supplied by the executive director. Authorization to discharge under this permit terminates at midnight on the day the NOT is postmarked for delivery to the TCEQ. If electronic submission of the NOT is provided, authorization to discharge under this permit terminates immediately following confirmation of receipt of the NOT by the TCEQ. Compliance with the conditions and requirements of this permit is required until an NOT is submitted.

1. Notice of Termination Required

The NOT must be submitted to TCEQ, and a copy of the NOT provided to the operator of any MS4 receiving the discharge, within thirty (30) days, after:

(a) final stabilization has been achieved on all portions of the site that is the responsibility of the permittee: or

(b) another permitted operator has assumed control over all areas of the site that have not been finally stabilized; and

(c) all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator if the new operator has sought permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

2. Minimum Contents of the NOT

The NOT form shall require, at a minimum, the following information:

(a) if authorization was granted following submission of a NOI, the permittees site-specific TPDES general permit number for the construction site;

(b) an indication of whether the construction activity is completed or if the permittee is simply no longer an operator at the site;

(c) the name, address and telephone number of the permittee submitting the NOT;

(d) the name (or other identifier), address, county, and latitude/longitude of the construction project or site; and

(e) a signed certification that either all storm water discharges requiring authorization under this general permit will no longer occur, or that the applicant to terminate coverage is no longer the operator of the facility or construction site, and that all temporary structural erosion controls have either been removed, will be removed on a schedule defined in the SWP3, or transferred to a new operator if the new operator has applied for permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

Section F. Waivers from Coverage

The executive director may waive the otherwise applicable requirements of this general permit for storm water discharges from small construction activities under the terms and conditions described in this section.

1. Waiver Applicability and Coverage

Operators of small construction activities may apply for and receive a waiver from the requirements to obtain authorization under this general permit where:

(a) the calculated rainfall erosivity R factor for the entire period of the construction project is less than five (5);

(b) the operator submits a signed waiver certification form, supplied by the executive director, certifying that the construction activity will commence and be completed within a period when the value of the calculated rainfall erosivity R factor is less than five (5); and

(c) the waiver certification form is submitted to the TCEQ at least two (2) days before construction activity begins.

2. Effective Date of Waiver

Operators of small construction activities are provisionally waived from the otherwise applicable requirements of this general permit two (2) days from the date that a completed waiver certification form is postmarked for delivery to TCEQ.

3. Activities Extending Beyond the Waiver Period

If a construction activity extends beyond the approved waiver period due to circumstances beyond the control of the operator, the operator must either:

(a) recalculate the rainfall erosivity factor R factor using the original start date and a new projected ending date, and if the R factor is still under five (5), submit a new waiver certification form at least two (2) days before the end of the original waiver period; or

(b) obtain authorization under this general permit according to the requirements delineated in either Part II.D.2. or Part II.D.3. at least two (2) days before the end of the approved waiver period.

Section G. Alternative TPDES Permit Coverage

1. Individual Permit Alternative

   Any discharge eligible for coverage under this general permit may alternatively be authorized under an individual TPDES permit according to 30 TAC Chapter 305 (relating to Consolidated Permits). Applications for individual permit coverage should be submitted at least three hundred and thirty (330) days prior to commencement of construction activities to ensure timely issuance.

2. Individual Permit Required

   The executive director may suspend an authorization or NOI in accordance with the procedures set forth in 30 TAC Chapter 205, including the requirement that the executive director provide written notice to the permittee. The executive director may require an operator of a construction site, otherwise eligible for authorization under this general permit, to apply for an individual TPDES permit because of:

   (a) the conditions of an approved TMDL or TMDL implementation plan;

   (b) the activity is determined to cause a violation of water quality standards or is found to cause, or contribute to, the loss of a designated use of surface water in the state: and

   (c) any other considerations defined in 30 TAC Chapter 205 would include the provision at 30 TAC § 205.4(c)(3)(D), which allows TCEQ to deny authorization under the general permit and require an individual permit if a discharger "has been determined by the executive director to have been out of compliance with any rule, order, or permit of the commission, including non-payment of fees assessed by the executive director."

3. Any discharge eligible for authorization under this general permit may alternatively be authorized under a separate, applicable general permit according to 30 TAC Chapter 205 (relating to General Permits for Waste Discharges).

Section H. Permit Expiration

This general permit shall be issued for a term not to exceed five (5) years. Following public notice and comment, as provided by 30 TAC § 205.3 (relating to Public Notice, Public Meetings, and Public Comment), the commission may amend, revoke, cancel, or renew this general permit. If the TCEQ publishes a notice of its intent to renew or amend this general permit before the expiration date, the permit will remain in effect for existing, authorized, discharges until the commission takes final action on the permit. Upon issuance of a renewed or amended permit, permittees may be required to submit an NOI within 90 days following the effective date of the renewed or amended permit, unless that permit provides for an alternative method for obtaining authorization.

In the event that the general permit is not renewed, discharges that are authorized under the general permit must obtain either a TPDES individual permit or coverage under an alternative general permit.

Part III. Storm Water Pollution Prevention Plans (SWP3)

Storm water pollution prevention plans must be prepared for storm water discharges that will reach Waters of the United States, including discharges to MS4 systems and privately owned separate storm sewer systems that drain to Waters of the United States, to identify and address potential sources of pollution that are reasonably expected to affect the quality of discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment staging areas, vehicle repair areas, fueling areas, etc., used solely by the permitted project. The SWP3 must describe and ensure the implementation of practices that will be used to reduce the pollutants in storm water discharges associated with construction activity at the construction site and assure compliance with the terms and conditions of this permit.

Individual operators at a site may develop separate SWP3s that cover only their portion of the project provided reference is made to the other operators at the site. Where there is more than one SWP3 for a site, permittees must coordinate to ensure that BMPs and controls are consistent, and do not negate or impair the effectiveness of each other. Regardless of whether a single comprehensive SWP3 is developed, or separate SWP3s are developed for each operator, it is the responsibility of each operator to ensure that compliance with the terms and conditions of this general permit is met in the areas of the construction site where that operator has operational control over construction plans and specifications or day-to-day operational control.

Section A. Shared SWP3 Development

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site is encouraged. Operators must independently submit an NOI and obtain authorization, but may work together to prepare and implement a single comprehensive SWP3 for the entire construction site.

1. The SWP3 must clearly list the name and, for large construction activities, the general permit authorization numbers, for each operator that participates in the shared SWP3. Until the TCEQ responds to receipt of the NOI with a general permit authorization number, the SWP3 must specify the date that the NOI was submitted to TCEQ by each operator. Each participant in the shared plan must also sign the SWP3.

2. The SWP3 must clearly indicate which operator is responsible for satisfying each shared requirement of the SWP3. If the responsibility for satisfying a requirement is not described in the plan, then each permittee is entirely responsible for meeting the requirement within the boundaries of the construction site where they perform construction activities. The SWP3 must clearly describe responsibilities for meeting each requirement in shared or common areas.

Section B. Responsibilities of Operators

1. Operators with Control Over Construction Plans and Specifications

All operators with operational control over construction plans and specifications to the extent necessary to meet the requirements and conditions of this general permit must:

(a) ensure the project specifications allow or provide that adequate BMPs may be developed to meet the requirements of Part III of this general permit;

(b) ensure that the SWP3 indicates the areas of the project where they have operational control over project specifications (including the ability to make modifications in specifications);

(c) ensure all other operators affected by modifications in project specifications are notified in a timely manner such that those operators may modify best management practices as are necessary to remain compliant with the conditions of this general permit; and

(d) ensure that the SWP3 for portions of the project where they are operators indicates the name and TPDES permit numbers for permittees with the day-to-day operational control over those activities necessary to ensure compliance with the SWP3 and other permit conditions. In the case that responsible parties have not been identified, the permittee with operational control over project specifications must be considered to be the responsible party until such time as the authority is transferred to another party and the plan is updated.

2. Operators with Day-to-Day Operational Control

Operators with day-to-day operational control of those activities at a project that are necessary to ensure compliance with a SWP3 and other permit conditions must:

(a) ensure that the SWP3 for portions of the project where they are operators meets the requirements of this general permit;

(b) ensure that the SWP3 identifies the parties responsible for implementation of best management practices described in the plan;

(c) ensure that the SWP3 indicates areas of the project where they have operational control over day-to-day activities;

(d) ensure that the SWP3 indicates, for areas where they have operational control over day-to-day activities, the name and TPDES permit number of the parties with operational control over project specifications (including the ability to make modifications in specifications).

Section C. Deadlines for SWP3 Preparation and Compliance

1. The SWP3 must be:

   (a) completed prior to obtaining authorization under this general permit;

   (b) implemented prior to commencing construction activities that result in soil disturbance;

   (c) updated as necessary to reflect the changing conditions of new operators, new areas of responsibility, and changes in best management practices; and

   (d) prepared so that it provides for compliance with the terms and conditions of this general permit.

Section D. Plan Review and Making Plans Available

1. The SWP3 must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWP3. The SWP3 must be made readily available at the time of an on-site inspection to: the executive director; a federal, state, or local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; and the operator of a municipal separate storm sewer receiving discharges from the site.

2. Operators of a large construction activity obtaining authorization to discharge through submission of a NOI must post a notice near the main entrance of the construction site. If the construction project is a linear construction project (e.g. pipeline, highway, etc.), the notice must be placed in a publicly accessible location near where construction is actively underway. Notice for these linear sites may be relocated, as necessary, along the length of the project. The notice must be readily available for viewing by the general public, local, state, and federal authorities, and contain the following information:

   (a) the TPDES general permit number for the project (or a copy of the NOI that was submitted to the TCEQ if a permit number has not yet been assigned);

   (b) the name and telephone number of a representative for the operator;

   (c) a brief description of the project; and

   (d) the location of the SWP3.

3. This permit does not provide the general public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that permittees allow members of the general public access to a construction site.

Section E. Keeping Plans Current

The permittee must revise or update the storm water pollution prevention plan whenever:

1. there is a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not been previously addressed in the SWP3; or

2. results of inspections or investigations by site operators, operators of a municipal separate storm sewer system receiving the discharge, authorized TCEQ personnel, or a federal, state or local agency approving sediment and erosion plans indicate the SWP3 is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under this general permit.

Section F. Contents of SWP3

The SWP3 must include, at a minimum, the information described in this section.

1. A site description, or project description must be developed to include:

   (a) a description of the nature of the construction activity, potential pollutants and sources;

   (b) a description of the intended schedule or sequence of major activities that will disturb soils for major portions of the site;

   (c) the total number of acres of the entire property and the total number of acres where construction activities will occur, including off-site material storage areas, overburden and stockpiles of dirt, and borrow areas;

   (d) data describing the soil or the quality of any discharge from the site;

   (e) a map showing the general location of the site (e.g. a portion of a city or county map);

   (f) a detailed site map (or maps) indicating the following:

      (i) drainage patterns and approximate slopes anticipated after major grading activities;

      (ii) areas where soil disturbance will occur;

      (iii) locations of all major structural controls either planned or in place;

      (iv) locations where stabilization practices are expected to be used;

      (v) locations of off-site material, waste, borrow, fill, or equipment storage areas;

      (vi) surface waters (including wetlands) either adjacent or in close proximity; and

(vii) locations where storm water discharges from the site directly to a surface water body.

(g) the location and description of asphalt plants and concrete plants providing support to the construction site and authorized under this general permit;

(h) the name of receiving waters at or near the site that will be disturbed or that will receive discharges from disturbed areas of the project; and

(i) a copy of this TPDES general permit.

2. The SWP3 must describe the best management practices that will be used to minimize pollution in runoff. The description must identify the general timing or sequence for implementation. At a minimum, the description must include the following components:

(a) Erosion and Sediment Controls

(i) Erosion and sediment controls must be designed to retain sediment on-site to the extent practicable with consideration for local topography, soil type, and rainfall. Controls must also be designed and utilized to reduce the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water from the site.

(ii) Control measures must be properly selected, installed, and maintained according to the manufacturer's or designer's specifications. If periodic inspections or other information indicates a control has been used incorrectly, or that the control is performing inadequately, the operator must replace or modify the control as soon as practicable after discovery that the control has been used incorrectly, is performing inadequately, or is damaged.

(iii) Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%.

(iv) If sediment escapes the site, accumulations must be removed at a frequency to minimize further negative effects, and whenever feasible, prior to the next rain event.

(v) Controls must be developed to limit, to the extent practicable, offsite transport of litter, construction debris, and construction materials.

(b) Stabilization Practices

The SWP3 must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where it is possible.

(i) Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, and other similar measures.

(ii) The following records must be maintained and either attached to or referenced in the SWP3, and made readily available upon request to the parties in Part III.D.1 of this general permit:

(a) The dates when major grading activities occur;

(b) The dates when construction activities temporarily or permanently cease on a portion of the site; and

(c) The dates when stabilization measures are initiated.

(iii) Stabilization measures must be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in (a) through (c) below, must be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased.

(a) Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

(b) Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site.

(c) In arid areas (areas with an average rainfall of 0 to 10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

3. Structural Control Practices

The SWP3 must include a description of any structural control practices used to divert flows away from exposed soils, to limit the contact of runoff with disturbed areas, or to lessen the off-site transport of eroded soils.

(a) Sediment basins are required, where feasible for common drainage locations that serve an area with ten (10) or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. Where rainfall data is not available or a calculation cannot be performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained is required where attainable until final stabilization of the site. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone final stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area on site, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater and other similar considerations. Where sediment basins are not feasible, equivalent control measures , which may include a series of smaller sediment basins, must be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area.

(b) Sediment traps and sediment basins may also be used to control solids in storm water runoff for drainage locations serving less than ten (10) acres. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction. Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, may be provided or where rainfall data is not available or a calculation cannot be performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained may be provided.

4. Permanent Storm Water Controls

A description of any measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWP3. Permittees are only responsible for the installation and maintenance of storm water management measures prior to final stabilization of the site or prior to submission of an NOT.

5. Other Controls

   (a) Off-site vehicle tracking of sediments and the generation of dust must be minimized.

   (b) The SWP3 must include a description of construction and waste materials expected to be stored on-site and a description of controls to reduce pollutants from these materials.

   (c) The SWP3 must include a description of pollutant sources from areas other than construction (including storm water discharges from dedicated asphalt plants and dedicated concrete plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

   (d) Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

6. Approved State and Local Plans

   (a) Permittees must ensure the SWP3 is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or storm water management site plans or site permits approved by federal, state, or local officials.

   (b) SWP3s must be updated as necessary to remain consistent with any changes applicable to protecting surface water resources in sediment erosion site plans or site permits, or storm water management site plans or site permits approved by state or local official for which the permittee receives written notice.

7. Maintenance

   All erosion and sediment control measures and other protective measures identified in the SWP3 must be maintained in effective operating condition. If through inspections the permittee determines that BMPs are not operating effectively, maintenance must be performed before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

8. Inspections of Controls

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable

(a) Personnel provided by the permittee and familiar with the SWP3 must inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, and structural controls for evidence of, or the potential for, pollutants entering the drainage system. Sediment and erosion control measures identified in the SWP3 must be inspected to ensure that they are operating correctly. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking. Inspections must be conducted at least once every fourteen (14) calendar days and within twenty four (24) hours of the end of a storm event of 0.5 inches or greater.

Where sites have been finally or temporarily stabilized, where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), or during seasonal arid periods in arid areas (areas with an average annual rainfall of 0 to 10 inches) and semi-arid areas (areas with an average annual rainfall of 10 to 20 inches), inspections must be conducted at least once every month.

As an alternative to the above-described inspection schedule of once every fourteen (14) calendar days and within twenty four (24) hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

(b) Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may provide inspection personnel with limited access to the areas described in Part III.F.8.(a) above. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils, and increase the potential for erosion. In these circumstances, controls must be inspected at least once every fourteen (14) calendar days and within twenty four (24) hours of the end of a storm event of 0.5 inches, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described in Part III.F.8.(a) above. The conditions of the controls along each inspected 0.25 mile segment may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile segment to either the end of the next 0.25 mile inspected segment, or to the end of the project, whichever occurs first.

As an alternative to the above-described inspection schedule of once every fourteen (14) calendar days and within twenty four (24) hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

(c) The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions to the SWP3 must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable.

(d) A report summarizing the scope of the inspection, names and qualifications of personnel making the inspection, the dates of the inspection, and major observations relating to the implementation of the SWP3 must be made and retained as part of the SWP3. Major observations should include: The locations of discharges of sediment or other pollutants from the site; locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and locations where additional BMPs are needed.

Actions taken as a result of inspections must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and this permit. The report must be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports)

9. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for all eligible non-storm water components of the discharge.

Part IV. Numeric Effluent Limitations

Section A. Limitations

All discharges of storm water runoff from concrete batch plants that qualify for coverage, and that are authorized to discharge storm water under the provisions of this general permit must be monitored at the following monitoring frequency and comply with the following numeric effluent limitations:

Parameter	Limitations Daily Maximum	Monitoring Frequency
Total Suspended Solids	65 mg/l	1/Year*
Oil and Grease	15 mg/l	1/Year*
pH	between 6 and 9 standard units	1/Year*

* If discharge occurs.

Section B. Reporting Requirements

Results of monitoring for determining compliance with numeric effluent limitations must be recorded on a discharge monitoring report (DMR). The DMR must either be an original EPA No. 3320-1 form (Attachment 3 of this general permit), a duplicate of the form, or as otherwise provided by the executive director. Monitoring must be conducted prior to December 31st for each annual monitoring period. A copy of the DMR must either be retained at the facility or shall be made readily available for review by authorized TCEQ personnel upon request, by March 31st following the end of each annual monitoring period. If the results indicate the violation of one or more of these numeric limitations, the permittee must also submit the DMR to the TCEQ's Information Resources Center (MC 212) by March 31st of each annual monitoring period.

Part V. Retention of Records

The permittee must retain the following records for a minimum period of three (3) years from the date that a NOT is submitted as required by Part II.D. For activities that are not required to submit an NOT, records shall be retained for a minimum period of three (3) years from the date that either: final stabilization has been achieved on all portions of the site that is the responsibility of the permittee; or another permitted operator has assumed control according to over all areas of the site that have not been finally stabilized. Records include:

1. A copy of the SWP3 plan.
2. All reports and actions required by this permit, including a copy of the construction site notice.
3. All data used to complete the NOI, if an NOI is required for coverage under this general permit.

Part VI. Standard Permit Conditions

1. The permittee has a duty to comply with all permit conditions. Failure to comply with any permit condition is a violation of the permit and statutes under which it was issued, and is grounds for enforcement action, for terminating coverage under this general permit, or for requiring a discharger to apply for and obtain an individual TPDES permit.

2. Authorization under this general permit may be suspended or revoked for cause. Filing a notice of planned changes or anticipated non-compliance by the permittee does not stay any permit condition. The permittee must furnish to the executive director, upon request and within a reasonable time, any information necessary for the executive director to determine whether cause exists for revoking, suspending, or terminating authorization under this permit. Additionally, the permittee must provide to the executive director, upon request, copies of all records that the permittee is required to maintain as a condition of this general permit.

3. It is not a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the permit conditions.

4. Inspection and entry shall be allowed under Texas Water Code Chapters 26-28, Health and Safety Code §§ 361.032-361.033 and 361.037, and 40 Code of Federal Regulations (CFR) §122.41(i). The statement in Texas Water Code § 26.014 that commission entry of a facility shall occur according to an establishment's rules and regulations concerning safety, internal security, and fire protection is not grounds for denial or restriction of entry to any part of the facility or site, but merely describes the commission's duty to observe appropriate rules and regulations during an inspection.

5. The discharger is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§ 26.136, 26.212, and 26.213 for violations including but not limited to the following:

   a. negligently or knowingly violating CWA, §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under CWA, § 402, or any requirement imposed in a pretreatment program approved under CWA, §§ 402(a)(3) or 402(b)(8);

   b. knowingly making any false statement, representation, or certification in any record or other document submitted or required to be maintained under a permit, including monitoring reports or reports of compliance or noncompliance.

6. All reports and other information requested by the executive director must be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

7. Authorization under this general permit does not convey property or water rights of any sort and does not grant any exclusive privilege.

Part VII. Fees Section A. Application Fees

An application fee of $100 must be submitted with each NOI for coverage of a large construction activity. A fee is not required for submission of an NOT or NOC letter.

Section B. Water Quality Fees

Large construction activities authorized under this general permit must pay an annual Water Quality Fee of $100 under Texas Water Code 26.0291 and according to TAC Chapter 205 (relating to General Permits for Waste Discharges).

Appendix A.

Periods of Low Erosion Potential by County

Start Date – End Date
Dec. 15 – Feb. 14
Archer
Baylor
Brown
Callahan
Childress
Coke
Coleman
Concho
Cottle
Dimmit
Eastland
Edwards
Fisher
Foard
Hardeman
Haskell
Irion
Jones
Kerr
Kimble
King
Kinney
Knox
Mason
Maverick
McCulloch
Menard
Nolan
Real
Runnels
Schleicher
Shackelford
Stephens
Stonewall
Sutton
Taylor
Throckmorton
Tom Green
Uvalde
Wichita
Wilbarger
Young
Zavala

Start Date – End Date
Nov. 15 – Apr. 30
Andrews
Armstrong
Borden
Brewster
Briscoe
Carson
Castro
Crane
Crosby
Dawson
Deaf Smith
Ector
Floyd
Gaines
Garza
Glasscock
Hale
Hansford
Hartley
Howard
Hutchinson
Lubbock
Lynn
Martin
Midland
Mitchell
More
Oldham
Pecos
Potter
Randall
Reagan
Scurry
Sherman
Sterling
Swisher
Terrell
Terry
Upton

Start Date – End Date
Feb. 1 – Mar. 30
Hall

Start Date – End Date
Nov. 15 – Jan. 14 or Feb. 1 – Mar. 30
Crockett
Dickens
Kent
Motley
Val Verde

Start Date – End Date
Nov. 1 – Apr. 14 or Nov. 15 – Apr. 30
Dallam
Hockley
Lamb
Parmer
Ward

Start Date – End Date
Nov. 1 – Apr. 30 or Nov. 15 – May 14
Bailey
Cochran
Jeff Davis
Loving
Presidio
Reeves
Winkler
Yoakum

Start Date – End Date
Nov. 1 – May 14
Culberson
Hudspeth

Start Date – End Date
Jan. 1 – Jul. 14 or **May 15 – Jul. 31** or
Jun. 1 – Aug. 14 or **Jun. 15 – Sept. 14** or
Jul. 1 – Oct. 14 or **Jul. 15 – Oct. 31** or
Aug. 1 – Apr. 30 or **Aug. 15 – May 14** or
Sept. 1 – May 30 or **Oct. 1 –Jun. 14** or
Nov. 1 – Jun. 30 or **Nov. 15 – Jul. 14**
El Paso

Start Date – End Date
Jan. 1 – Mar. 30 or Dec. 1 – Feb. 28
Collingsworth
Donley
Gray
Hemphill
Lipscomb
Ochiltree
Roberts
Wheeler

Attachment 1

CONSTRUCTION SITE NOTICE
FOR THE
Texas Commission on Environmental Quality (TCEQ)
Storm Water Program

TPDES GENERAL PERMIT TXR150000

The following information is posted in compliance with **Part II.D.1.** of the TCEQ General Permit Number TXR150000 for discharges of storm water runoff from construction sites. Additional information regarding the TCEQ storm water permit program may be found on the internet at:

www.tnrcc.state.tx.us/permitting/waterperm/wwperm/tpdestorm

Contact Name and Phone Number:	
Project Description: (Physical address or description of the site's location, estimated start date and projected end date, or date that disturbed soils will be stabilized)	

For Construction Sites Authorized Under Part II.D.1. the following certification must be completed:

I________________________________(Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization by waiver under Part II.D.1. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. Construction activities at this site shall occur within a time period listed in Appendix A of the TPDES general permit for this county, that period beginning on ____________ and ending on ____________. I understand that if construction activities continue past this period, all storm water runoff must be authorized under a separate provision of this general permit. A copy of this signed notice is supplied to the operator of the MS4 if discharges enter an MS4 system. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

______________________________ ______________________________

Signature Date

Attachment 2

CONSTRUCTION SITE NOTICE FOR THE Texas Commission on Environmental Quality (TCEQ) Storm Water Program

TPDES GENERAL PERMIT TXR150000

The following information is posted in compliance with **Part II.D.2.** of the TCEQ General Permit Number TXR150000 for discharges of storm water runoff from construction sites. Additional information regarding the TCEQ storm water permit program may be found on the internet at:

www.tnrcc.state.tx.us/permitting/waterperm/wwperm/tpdestorm

Contact Name and Phone Number:	
Project Description: (Physical address or description of the site's location, estimated start date and projected end date, or date that disturbed soils will be stabilized)	
Location of Storm Water Pollution Prevention Plan:	

For Construction Sites Authorized Under Part II.D.2. (Obtaining Authorization to Discharge) the following certification must be completed:

I ____________________(Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization by waiver under Part II.D.2. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. A storm water pollution prevention plan has been developed and implemented according to permit requirements. A copy of this signed notice is supplied to the operator of the MS4 if discharges enter an MS4 system. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

____________________ Signature and Title

____________________ Date

Attachment 3

CONCRETE BATCH FACILITIES

PERMITTEE NAME/ADDRESS (Includes Facility Name/Location if Different)

NAME

ADDRESS

FACILITY
LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES)
DISCHARGE MONITORING REPORT (DMR)

(2-16)	(17-19)
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

YEAR	MO	DAY		YEAR	MO	DAY
	01	01			12	31
(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

☐

STW/TXR15_______/ CO

NOTE: Enter your permit number in the underlined space in the upper right hand corner of this page. Example: STW/tTXR1500123/CO

Mail to: TCEQ (MC 212)
P.O. Box 13087
Austin, TX 78711-3087

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING			(4 Card Only) QUALITY OR CONCENTRATION				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		(46-53)	(54-61)		(38-45)	(46-53)	(54-61)				
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Total Suspended Solids	SAMPLE MEASUREMENT	*******	*******	*******	*******	*******		mg/l			
	SAMPLE REQUIREMENT	*******	*******	*******	*******	*******	65 Daily Max			1/Year	Grab
Oil & Grease	SAMPLE MEASUREMENT	*******	*******	*******	*******	*******		mg/l			
	SAMPLE REQUIREMENT	*******	*******	*******	*******	*******	15 Daily Max			1/Year	Grab
pH	SAMPLE MEASUREMENT	*******	*******	*******	*******	*******		S.U.			
	SAMPLE REQUIREMENT	*******	*******	*******	*******	*******	6.0 - 9.0 Range			1/Year	Grab
	SAMPLE MEASUREMENT										
	SAMPLE REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.						
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

EPA Form 3320-1 (3-99)
Form Approved OMB No. 2040-004

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)

PAGE OF

TCEQ

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the TPDES General Permit

TCEQ Office Use Only
TPDES Permit Number: TXR15|__|__|__|__|
GIN Number: |__|__|__|__|__|__|__|
Fee Receipt No. ____________

IMPORTANT:
- •Use the attached **INSTRUCTIONS** when completing this form.
- •After completing this form, use the attached **CUSTOMER CHECKLIST** to make certain all items are complete and accurate.
- •Missing, illegible, or inaccurate items may delay final acknowledgment or coverage under the general permit.

Application Fee: You must submit the $100 NOI Application Fee to TCEQ under separate cover (see instructions) using the attached Application Fee submittal form. (DO NOT SEND A COPY OF THE NOI WITH THE APPLICATION FEE SUBMITTAL FORM)
Tell us how you paid for this fee:

Check/Money Order No.:
Name Printed on Check:

A. OPERATOR

1. TCEQ Issued Customer Number (CN) (if available):

2. Legal Name (spelled exactly as filed with the Texas Secretary of State, County, or legal document that was used in forming the entity):

3. Mailing Address: Suite No./Bldg.No.:
City: State: ZIP Code:

4. Phone No.: ( ) - Extension:

5. FAX No. E-mail Address:

6. Type of Operator:
☐ Individual ☐ Sole Proprietorship-D.B.A. ☐ Partnership
☐ Corporation ☐ Federal Government ☐ State Government
☐ County Government ☐ City Government ☐ Other:____________

7. Independent Operator: ☐ Yes ☐ No (If governmental entity or a subsidiary or part of a larger corporation, check "NO")

8. Number of Employees: ☐ 0-20; ☐ 21-100; ☐ 101-250; ☐ 251-500; or ☐ 501 or higher

9. Business Tax and Filing Numbers *(not applicable to Individuals, Government, General Partnerships, and Sole Proprietorship-D.B.A):*
State Franchise Tax ID Number:____________ Federal Tax ID:____________
TX SOS Charter (filing) Number:____________ DUNS Number:____________(If known)

B. BILLING ADDRESS (The Operator is responsible for paying the annual fee.)

☑ **Same As Operator** (check if address is the same, then proceed with Section C.)

1. Billing Mailing Address: Suite No./Bldg.No.:
City: State: ZIP Code:

2. Billing Contact (Attn or C/O):

3. Country Mailing Information (if outside USA) Territory: Country Code: Postal Code:

4. Phone No.: ( ) - Extension:

5. FAX No. E-mail Address:

C. APPLICATION CONTACT (If TCEQ needs additional information regarding this application, who should be contacted?

1. Name: Title: Company:

2. Phone No.: ( ) - Extension:

3. FAX No. E-mail Address:

D. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

1. TCEQ Issued RE Reference Number (RN) (if available):

2. Name of Project or Site:

3. Physical Address of Project or Site: (enter in spaces below)

Street Number: Street Name:

City (nearest to the site): ZIP Code (nearest to the site): County (Counties if >1):

4. If no physical address (Street Number & Street Name), provide a written location access description that can be used for locating the site: (Ex.: 2 miles west from intersection of Hwy 290 & IH35 on Hwy 290 South)

5. Latitude: N Longitude: W

6. Standard Industrial Classification (SIC) code:

7. Describe the activity related to the need for this authorization at this site *(do not repeat the SIC and NAICS code)*:

8. Is the project/site located on Indian Country Lands? ☐ Yes ☑ No
If Yes, you must obtain authorization through EPA, Region VI.

E. SITE MAILING ADDRESS (address for receiving mail at the site)

☐ **Same As Operator** (check if address is the same, then proceed with Section F.)

Mailing Address: Suite No./Bldg.No.:

City: State: ZIP Code:

F. GENERAL CHARACTERISTICS

1. Has a Pollution Prevention Plan been prepared as required in the general permit? ☑ Yes ☐ No

If No, coverage may be denied as the PPP is required at the time the NOI is submitted to TCEQ.

2. Provide the estimated area of land disturbed (to the nearest acre): ____________Acres

3. Provide the name of the receiving water body (local stream, lake, drainage ditch), MS4 Operator (if applicable) and the segment number where storm water runoff will flow from the construction site.

MS4 Operator:____________________ Receiving Water Body: ____________________ Segment: ______________

G. CERTIFICATION

I, ______________________________ ______________________________
Typed or printed name *Title (Required)*

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature:______________________________ Date:______________________________
(Use Blue Ink)

Texas Commission on Environmental Quality
General Permit Payment Submittal Form

Use this form to submit your Application Fee.

- Complete items 1 through 4 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your NOI form.
- Do not mail this form to the same address as your NOI. Instead, mail this form and your check to:

<u>**BY REGULAR U.S. MAIL**</u>	<u>**BY OVERNIGHT/EXPRESS MAIL**</u>
Texas Commission on Environmental Quality Financial Administration Division Cashier's Office, MC-214 P.O. Box 13088 Austin, TX 78711-3088	Texas Commission on Environmental Quality Financial Administration Division Cashier's Office, MC-214 12100 Park 35 Circle Austin, TX 78753

To confirm receipt of payment, call the Cashier's office at 512/239- 0357 or 239-0187.

Fee Code: <u>**GPA**</u> General Permit: **TXR150000**

1. Check / Money Order No: 2. Amount of Check/Money Order:

3. Date of Check or Money Order:

4. Name on Check or Money Order:

5. NOI INFORMATION

If the check is for more than one NOI, list each Project/Site (RE) Name and Physical Address exactly as provided on the NOI. **DO NOT SUBMIT A COPY OF THE NOI WITH THIS FORM AS IT COULD CAUSE DUPLICATE PERMIT ENTRIES.**

☐ See Attached List of Sites *(If more space is needed, you may attach a list.)*

Project/Site (RE) Name:

Project/Site (RE) Physical Address:

Staple Check In This Space

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the TPDES General Permit (TXR150000)

General Information and Instructions

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Storm Water & Pretreatment Team; MC-228
P.O. Box 13087
Austin, Texas 78711-3087

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Storm Water & Pretreatment Team; MC-228
12100 Park 35 Circle
Austin, TX 78753

It is recommended that the NOI be mailed using a method that documents the date mailed.

TCEQ Contact list:

Application Processing Questions relating to the status and form requirements:	512/239-3700 & E-mail at "swpermit@tceq.state.tx.us"
Technical Questions relating to the general permit:	512/239-4671
Environmental Law Division:	512/239-0600
Central Records for obtaining copies of forms submitted to TCEQ:	512/239-0900
Information Services for obtaining reports from program data bases(as available):	512/239-DATA (3282)
Financial Administration's Cashier's office for receipt of payment:	512/239- 0357 or 512/239-0187

Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

1. Administrative Review: Each item on the form will be reviewed for a complete response. In addition, the operator's legal number must be verified with Texas Secretary of State as valid and active (when applicable). The address on the form must be verified with the US Postal service as an address receiving regular mail delivery (never give an overnight/express mailing address).

2. Notice of Deficiency: If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness; and if complete,

3. Acknowledge Coverage: We will mail an Acknowledgment Certificate to the operator. This certificate acknowledges coverage under the general permit.

   -or-

   Denial of Coverage: If the operator fails to respond to the NOD, we may deny coverage under the general permit. If coverage is denied, we will notify the operator.

General Permit (Your Permit)
Provisional coverage under the general permit begins two days following the date that the NOI was postmarked. You should have a copy of the general permit when submitting your application. You may view and print the general permit for which you are seeking coverage on the TCEQ web site www.tceq.state.tx.

General Permit Forms
The Notice of Intent and Notice of Termination forms (with instructions) are available in Adobe Acrobat PDF format on the TCEQ web site www.tceq.state.tx.us.

Change in Operator
An authorization under the general permit is not transferable. If the operator of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted not later than 10 days prior to the change in operator status.

Notice of Change
A Notice of Change letter must be submitted with supplemental or corrected information within 14 days following the time when the operator becomes aware that it failed to submit any relevant facts or incorrect information in the NOI; or the time when relevant facts in the NOI change (i.e. addresses, or phone numbers).

Notice of Termination
A permittee shall terminate coverage under this general permit through the submittal of a NOT when the operator or owner of the facility changes, the discharge becomes authorized under an individual permit, or the use of the property changes and is no longer subject to regulation under this general permit.

TCEQ Central Registry Core Data Form
The Core Data From has been incorporated into this form. Do not complete and attach a core data form when submitting this application. After final acknowledgment of coverage under the general permit, the program will transfer the core data to the agency Central Registry for assignment of a Customer Number and Regulated Entity Number. You can find this information on our web site at www.tceq.state.tx.us. where you can query the Central Registry under the regulated entity number, or by your permit number under the search field labeled "Additional ID".

Fees are associated with a General Permit
The general permit refers to two different fees that apply to operators required to submit a Notice of Intent (NOI). Payment of the fees may be made by check or money order, payable to TCEQ.

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Application Fee: This is a fee that is required to be paid at the time the NOI is submitted. Failure to submit the payment at the time the application is filed will cause delays in acknowledging coverage or denial of cover under the general permit. This payment must be submitted separately using the Payment Submittal Form. If submitting one check or money order for multiple NOI's, list each site name and location exactly as provided on the NOI.

Annual Water Quality Fee: This is a fee that is assessed to operators with an active authorization under the general permit on September 1 of each y
The operator will receive an invoice for payment of the annual fee in November of each year. The payment will be due 30 days from the invoice date. A 5% penalty will be assessed if the payment is received by TCEQ after the due date. Annual fee assessments cannot be waived as long as the authorization under the general permit is active on September 1. It's important for the operator to submit a Notice of Termination (NOT) when coverage under the general permit is no longer required. A NOT is effective on the postmarked date of mailing the form to TCEQ. It is recommended that the NOT be mailed using a method that documents the date mailed.

INSTRUCTIONS FOR FILLING OUT THE FORM

A. OPERATOR (As defined in the general permit.)

1. TCEQ Issued Customer Number (CN)
TCEQ's Central Registry will assign each customer a number that begins with "CN," followed by nine digits. **This is not a permit number, registration number, or license number.**

- If this customer has not been assigned a Customer Reference Number, leave the space for the Customer Reference Number blank.
- If this customer has already been assigned this number, enter the operator's Customer Reference Number in the space provided.

2. Legal Name
Provide the legal name of the facility operator, as authorized to do business in Texas. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal document forming the entity that is filed in the county where doing business. You may contact the SOS at 512/463-5555, for more information related to filing in Texas. If filed in the county where doing business, provide a copy of the legal documents showing the legal name.

3. Operator Mailing Address

Provide a complete mailing address for this customer to receive mail from the TCEQ. The address must be verifiable with the US Postal Service at www.usps.com. for regular mail delivery (not overnight express mail). If you find that the address is not verifiable using the USPS web search, please indicate the address is used by the USPS for regular mail delivery.

If this is a street address, please follow US Postal Service standards. In brief, these standards require this information in this order:

- # the "house" number—for example, the 1401 in 1401 Main St
- # if there is a direction before the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- # the street name (if a numbered street, do not spell out the number—for example, 6th St, not Sixth St)
- # an appropriate abbreviation of the type of street—for example, St, Ave, Blvd, Fwy, Exwy, Hwy. Cr, Ct, Ln
- # if there is a direction after the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- # if there is a room number, suite number, or company mail code

City, State, *and* ZIP Code

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

Country Mailing Information

If this address is ***outside*** the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non–U.S. Postal Service features here. If this address is ***inside*** the United States, leave these spaces blank.

Operator Electronic Communications

4. Phone Number

This number should correspond to this customer's mailing address given earlier. Enter the area code and phone number here. Leave "Extension" blank if this customer's phone system lacks this feature.

5. Fax Number and E-mail Address

This number and E-mail address should correspond to operator's mailing address given earlier. (Optional Information)

6. Type of Operator

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type:

Individual	is a person and has not established a business to do whatever causes them to be regulated by us.
Sole Proprietorship-- D.B.A.	is a business that is owned by only one person and has not been incorporated. This business may: • be under the person's name • have its own name ("doing business as," or d.b.a.) • have any number of employees
Partnership	is a business that is established as a partnership as defined by the Texas Secretary of State's Office.
Corporation	meets all of these conditions: • is a legally incorporated entity under the laws of any state or country • is recognized as a corporation by the Texas Secretary of State • has proper operating authority to operate in Texas.
Federal, state, county, or city government (as appropriate)	is either an agency of one of these levels of government or the governmental body itself.
Other	fits none of the above descriptions. Enter a short description of the type of customer in the blank provided.

7. Independent Operator

Check "No" if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check "Yes."

8. Number of Employees

Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in this NOI.

9. State Franchise Tax ID Number	Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.
Federal Tax ID	All businesses, except for some small sole proprietors, should have a federal taxpayer identification number (T Enter this number here. Use no prefixes, dashes, or hyphens. Individuals and sole proprietors do not need to pro a federal tax ID.
TX SOS Charter (filing) Number	Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filling number. You may obtain further information by calling SOS at 512/463-5555 or www.sos.state.tx.us
DUNS Number	Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

B. BILLING ADDRESS

An annual fee is assessed to an operator holding an active authorization under the general permit September 1 of each year. Provide the complete mailing address where the annual fee invoice should be mailed. Verify the address with the USPS ensuring it to be an address for delivery of regular mail (not overnight express mail). Also, provide a phone number of the office responsible for payment of the invoice. The operator is the responsible billing client for payment of annual fee.

C. APPLICATION CONTACT

Provide the name, title and communication information of the person that TCEQ can contact for additional information regarding this application.

D. REGULATED ENTITY (RE) INFORMATIO ON PROJECT OR SITE

1. Regulated Entity Reference Number (RN)

This is a number issued by TCEQ's Central Registry to sites regulated by TCEQ (a location where a regulated activity occurs). **This is not a permit number, registration number, or license number.**

- If this Regulated Entity has not been assigned a Regulated Entity Number, leave the space for the Regulated Entity Number blank.
- If this customer has already been assigned this number, enter the operator's Regulated Entity Number.

2. Site/Project Name/Regulated Entity

Provide the name of the site as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity. A regulated entity number will be assigned by Central Registry, if this is a new site (not currently regulated by TCEQ).

3. Site/Project (RE) Physical Address

Enter the complete address of where the site is located. This address must be validated through US Postal Service or your local police (911 service) as a valid address. Please confirm this to be a complete and valid address. In some rural areas, new addresses are being assigned to replace rural route addresses. **Please do not use a rural route or post office box for a site location.**

Provide the county, city and ZIP code of the area where the project/site is located. This is information is required to complete the processing of your form.

4. No Physical Address

If a site does not have an actual physical address that includes a street (or house) number and street name, enter NO ADDRESS for the street name. Then provide a complete written location access description. *For example:* "The site is located 2 miles west from intersection of Hwy 290 & IH35, locate on the southwest corner of the Hwy 290 South bound lane."

For projects/sites that includes a large project area, describe the project. *For example*: "State Highway 45 road project between Highway 620 and IH 35."

5. Latitude and Longitude
Enter the latitude and longitude of the site in either degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to: http://www.tnrcc.state.tx.us/gis/drgview.html or www.terraserver.microsoft.com/advfind.aspx.

6. Standard Industrial Classification (SIC) code
Provide the SIC code that best describes the activity being conducted at the site.
Common SIC Codes related to construction activities include: 1521 Construction of Single Family Homes; 1522 Construction of Residential Bldgs. Other than Single Family Homes; 1541 Construction of Industrial Bldgs. and Warehouses; 1542 Construction of Non-residential Bldgs. other than Industrial Bldgs. and Warehouses; 1611 Highway & Street Construction, except Highway Construction; 1622 Bridge, Tunnel, & Elevated Highway Construction; 1623 Water, Sewer, Pipeline & Communications, and Power Line Construction.
For help with SIC codes, go to: http://www.osha.gov/oshstats/sicser.html

7. Description of Activity Regulated
Provide a description of the activity being conducted at the site. This must be a description specific to what you are doing that requires this authorization. (Do not repeat the SIC Code)

8. Indian Country Lands
If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA, Region VI, Dallas. **Do not submit this form to TCEQ.**

E. SITE MAILING ADDRESS

Provide a complete mailing address to be used by TCEQ for receiving mail at the site. In most cases, the address is the same as the operator. If so, simply place a check mark in the box. If you provide a different address, please verify the address with USPS as noted above for the operator address.

F. GENERAL CHARACTERISTICS

1. Pollution Prevention Plan (PPP)
This plan identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter storm water, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. **You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI.** This plan must be available for a TCEQ investigator to review on request.

2. Estimated Area of Land Disturbed
Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acres, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. If the acreage is less than 1, enter 1. "Disturb" means any clearing, grading, excavating, or other similar activities. If you have any questions about this item, please call the storm water technical staff at (512)239-4671.

3. Receiving Water Body
The storm water from your site eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. The discharge may initially be into a municipal separate storm sewer system (MS4). If applicable, provide the name of the entity that operates the MS4 where the storm water discharges. An MS4 operator is often a city, town, or utility district, but possibly another form of government.

You must provide the name of the water body that receives the discharge from the construction site (a local stream or lake). Storm water may be discharged directly to a receiving stream or through a MS4. If known, please include the segment number if the discharge is to a classified water body.

G. OPERATOR CERTIFICATION

The certification must bear an original signature of a person meeting the signatory requirements specified in under 30 Texas Administrative Code (TAC) §305.44. The printed name and title of the person signing the form must be provided. NOI forms with stamped or copied signatures will not be processed.

IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the Texas Commission on Environmental Quality's Environmental Law Division at 512/239-0600.

30 Texas Administrative Code
§305.44. Signatories to Applications.

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate of[illegible] means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Notice of Termination (NOT) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000)

TCEQ Office Use Only
TPDES Permit Number: TXR15__ __ __ __ __ NO
GIN Number: __ __ __ __ __ __ __ __

For help completing this application, read the TXR150000 NOI Instructions (TCEQ-20023-Instructions).

A. TPDES Permit Number: TXR15________

B. Construction Site Operator Customer Reference Number: CN____________
Name:____________
Mailing Address:____________
City:____________ State: TX________ Zip Code:________
Country Mailing Information (*if outside USA*) Territory:________ Country Code:________ Postal Code:________
Phone Number:________ Extension:________ Fax Number:________
E-mail Address:____________

C. Project / Site Information Regulated Entity Reference Number: RN____________
Name:____________
Physical Address:____________
Location Access Description:____________
City:____________ County: --____________ Zip Code:________

D. Contact - If the TCEQ needs additional information regarding this termination, who should be contacted?
Name:____________ Title:____________
Phone Number:________ Extension:________ Fax Number:________
E-mail Address:____________

E. Certification

I certify under penalty of law that authorization under the TPDES Construction General Permit (TXR150000) is no longer necessary based on the provisions of the general permit. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity under the general permit TXR150000, and that discharging pollutants in storm water associated with construction activity to waters of the U.S. is unlawful under the Clean Water Act where the discharge is not authorized by a TPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

Construction Site Operator Representative:

Prefix:________ First:____________ Middle:____________
Last:____________ Suffix:____________
Title:____________

Signature:____________ Date:____________

If you have questions on how to fill out this form or about the storm water program, please contact us at (512) 239-4671. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at (512) 239-3282.

The completed NOT must be mailed to the following address:

Texas Commission on Environmental Quality
Storm Water & General Permits Team; MC - 228
P.O. Box 13087
Austin, Texas 78711-3087

Completing the Notice of Termination for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000)

Who May File a Notice of Termination (NOT) Form
Permittees disturbing 5 acres or more (or part of a larger common plan of development or sale disturbing 5 acres or more) who are presently covered under the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit must submit a Notice of Termination (NOT) when final stabilization has been achieved on all portions of the site that is the responsibility of the permittee; or another permitted operator has assumed control over all areas of the site that have not been finally stabilized and all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator if the new operator has sought permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

Final Stabilization occurs when either of the following conditions are met:

(a) All soil disturbing activities at the site have been completed and a uniform (e.g, evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or goetextiles) have been employed.

(b) For individual lots in a residential construction site by either:

(1) the homebuilder completing final stabilization as specified in condition (a) above; or

(2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization.

(c) For construction activities on land used for agricultural purposes (e.g. pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to a surface water and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

A. TPDES Permit Number

Provide the TPDES permit number assigned to the operator of the construction site.

B. Construction Site Operator Information

Customer Reference Number
This number designates the operator's status as a TCEQ "customer"—in other words, an individual or business that is involved in an activity that we regulate. We assign each customer a number that begins with "CN," followed by nine digits. ***This is not a permit number, registration number, or license number.*** In the remainder of this section, we will use "this customer" to mean the operator for Part B of the form.

- If this customer has not been assigned a Customer Reference Number, leave the space for the Customer Reference Number blank.
- If this customer has already been assigned this number, enter the operator's Customer Reference Number.
- ***Do not enter a permit number, registration number, or license number in place of the Customer Reference Number.***

Name
Enter the legal name of this customer as authorized to do business in Texas. Include any abbreviations (LLC, Inc., etc.).

Mailing Address
Enter a central and general mailing address for this customer to receive mail from the TCEQ. For example, if this customer is a large company, this address might be the corporate or regional headquarters. On the other hand, for a smaller business, this address could be the same as the site address.

If this is a street address, please follow US Postal Service standards. In brief, these standards require this information in this order:

- the "house" number—for example, the 1401 in 1401 Main St
- if there is a direction before the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- the street name (if a numbered street, do not spell out the number—for example, 6th St, not Sixth St)
- an appropriate abbreviation of the type of street—for example, St, Ave, Blvd, Fwy, Exwy, Hwy, Cr, Ct, Ln
- if there is a direction after the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- if there is a room number, suite number, or company mail code

City, State, *and* ZIP Code
Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

Country Mailing Information
If this address is ***outside*** the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non–U.S. Postal Service features here. If this address is ***inside*** the United States, leave these spaces blank.

Phone Number *and* Extension
This number should correspond to this customer's mailing address given earlier. Enter the area code and phone number here. Leave "Extension" blank if this customer's phone system lacks this feature.

Fax Number
This number should correspond to this customer's mailing address given earlier. Enter the area code and fax number here.

E-mail Address
As with the mailing address, this should be a general address that is appropriate for e-mail to this customer's central or regional headquarters, if applicable.

C. Project / Site Information

Regulated Entity Reference Number

This number designates this site's status as a TCEQ "regulated entity"—in other words, a location where an activity that we regulate occurs. We assign each regulated entity a number that begins with "RN," followed by nine digits. ***This is not a permit number, registration number, or license number.***

- If this site has not been assigned a Regulated Entity Reference Number, leave the space for the Regulated Entity Reference Number blank.
- If this site has already been assigned this number, enter the Regulated Entity Reference Number.
- ***Do not enter a permit number, registration number, or license number in place of the Regulated Entity Reference Number.***

Name
Enter the name by which you want this site to be known to the TCEQ.

Physical Address
Enter the physical address of the site itself. TCEQ staff should be able to use this address to find the site.

Location Description
Enter a physical description of the location of the site based on highway intersections and/or permanent landmarks.

City, County, *and* ZIP Code
Enter the name of the city, the county, and the ZIP Code. (Enter the full ZIP+4 if you know it.)

D. Contact

Give all the relevant information for the person whom TCEQ can contact if there are questions about any of the information on this form—perhaps the same person who completed the form.

E. Certification

The operator must sign and date this statement to validate this NOI. Be sure to enter the full legal name of the person signing the form and the relevant title—for example, "Operator," "Operator's attorney," or "Senior Site Manager." Use the "Prefix" blank for such titles as Dr., Mr., or Ms., as desired. Use the "Suffix" blank for such designations as Ph.D., Jr., Sr., III, or J.D., if applicable.

For a corporation, the application shall be signed by a responsible corporate officer. A responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this application, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g: regional administrator of the United States Environmental Protection Agency).

Questions?

If you have questions about any of the information on this form, contact our Storm Water Program at 512/239-4671 or look for "Storm Water" on our Web site:

www.tceq.state.tx.us

Date:________________________

TCEQ
Attn: Storm Water Permits Team: MC-228
P.O. Box 13087
Austin, TX 78711-3087

Attn: NOI Processing Team

We are requesting you make the following changes to our NOI application:

Permit #: **TXR15**____________________

Owner/Operator:
Name: ______________________________
Address ______________________________
City, Zip ______________________________

Project/Site:
Name: ______________________________
Physical Address: ______________________________
City, Zip ______________________________

Correction(s):
____
____
____
____
____

Please expedite this request at your earliest convenience and verify that these corrections were made. Thank you for much for your help.

Sincerely,

TCEQ

Site Notice

FOR THE
Texas Commission on Environmental Quality (TCEQ)
Storm Water Program

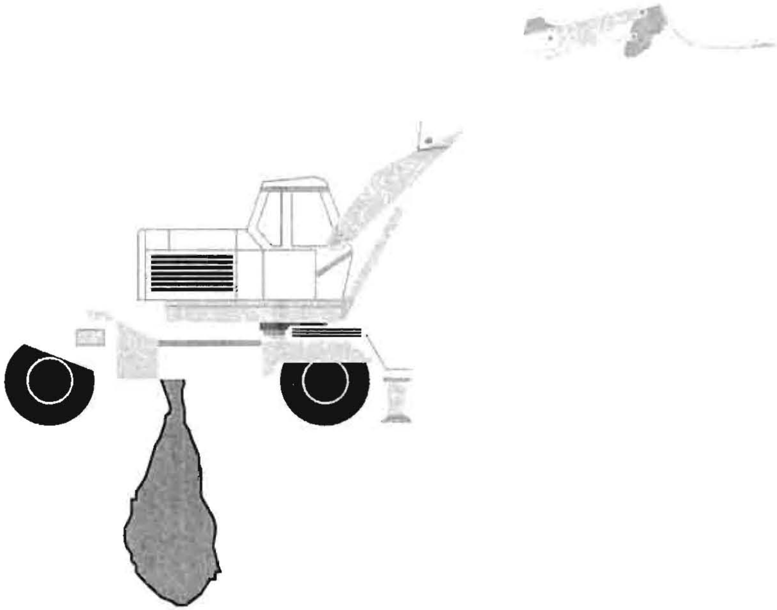
TPDES GENERAL PERMIT TXR150000

This notice applies to construction sites operating under Part II.D.3 of the TPDES General Permit Number TXR150000 for discharges of runoff from construction sites equal to or greater than five acres, including the larger common plan of development. This is an optional notice which contains information required in Part III.D.2. of the general permit. This information should be posted along with a signed copy of the Notice of Intent. Additional information regarding the TCEQ storm water permit program may be found on the internet at:

www.tnrcc.state.tx.us/permitting/waterperm/wwperm/tpdestorm

TPDES Permit Number:	Pending
Contact Name:	Sharon Blandford
Contact Phone Number:	972-402-3914
Project Description: *Physical address or description of the site's location, and* *Estimated start date and projected end date, or date that disturbed soils will be stabilized.*	The Home Depot Bulverde, Texas SWQ State Hwy. 281 & State Hwy. 46 Bulverde, Texas 78163
Location of the SWPPP	On Site Construction Trailer and 2800 Forest Lane Dallas, Texas 75234

Spill Response Plan



Point of Contact in case of a reportable quantity release:

EPA National Response Center	**(800) 424-8802**
Texas Commission on Environmental Quality	**(800) 832-8224** **(512) 239-2454**
Paradigm Engineering	**(888) 243-3605**

Leak or Spill

- Report spills immediately to owner
- Employees will not be punished for reporting spills
- Contain spill, start cleanup, report if over reportable quantity

Reportable Quantities		
Material	Media Released To	Reportable Quantity
Engine oil, fuel, hydraulic & brake fluid	Land	25 gallons
Engine oil, fuel, hydraulic & brake fluid	Water	Visible Sheen
Antifreeze	Land	100 lbs (13 Gal..)
Battery Acid	Land, Water	100 lbs
Refrigerant	Air	1 lb
Gasoline	Air, Land, Water	100 lbs
Engine Degreasers	Air, Land, Water	100 lbs